THE BUILDER

A JOURNAL FOR THE ARCHITECT & CONSTRUCTOR

VOL. CXLII. MARCH 25, 1932. No. 4651.

St. Swithun's School, Winchester: Part of First-Floor Corridor.

MESSRS. MITCHELL AND BRIDGWATER, AA.R.I.B.A., Architects.

(*See page 554*).

MEETINGS

THURSDAY, *March* 31.

Institution of Structural Engineers. Mr. A. H. S. Waters on "Modern Constructional Practice in Sewerage and Sewage Disposal Works." 6.30 p.m.

Auctioneers' and Estate Agents' Institute. Mr. H. Mordaunt Rogers on "The Making of a Connoisseur: Part II—Concerning Old Glass." 8 p.m.

FRIDAY, *April* 1.

Incorporated Association of Architects and Surveyors. Mr. Leslie Maddock on "The New Town and Country Planning Bill. 7 p.m.

Institution of Structural Engineers (Midland Counties Branch). Mr. J. Stuart Lewis on "Tolerances and Clearances in Structural Steelwork." At Birmingham. 6.30 p.m.

TUESDAY, *April* 5.

Hull Guild of Building. Mr. T. H. Jones on "Modern Waterworks Appliances."

WEDNESDAY, *April* 6.

South-Eastern Society of Architects. Annual Meeting, 7 p.m.; Mr. Kenneth Ryde on "Croydon in the Past," 8 p.m. At the Public Halls, George-street, Croydon.

THURSDAY, *April* 7.

Society of Antiquaries. Mr. J. G. Mann on "Spanish Armour from the Tenth to the Fifteenth Century." 8.30 p.m.

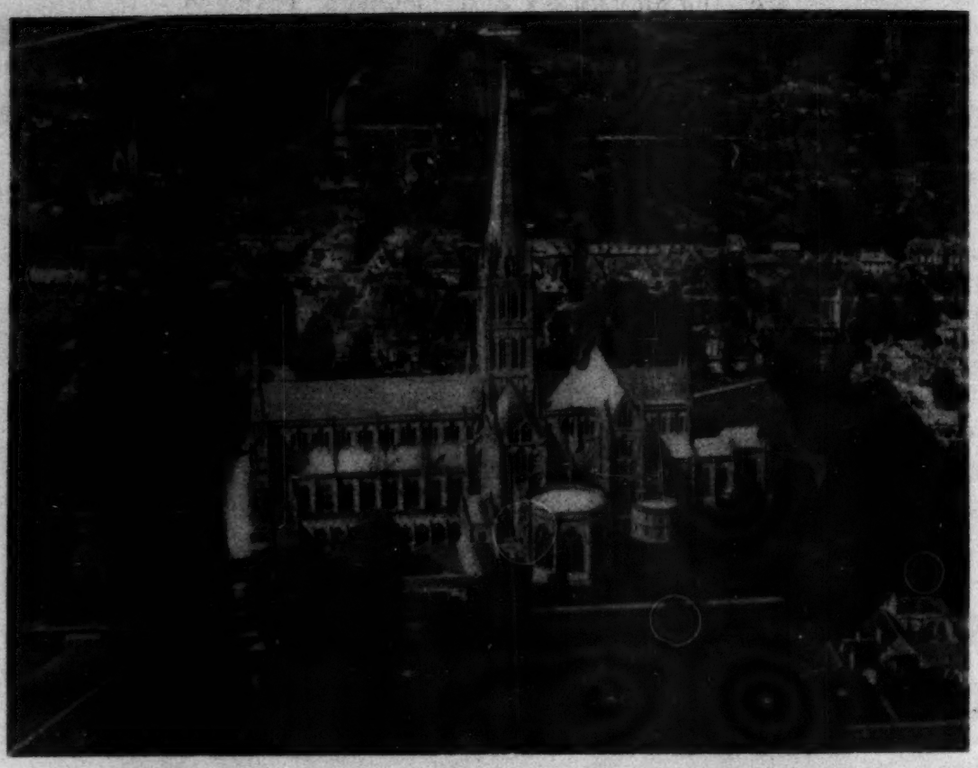
L.C.C. Central School of Arts and Crafts. Dr. R. E. Stradling on "Building Research." 7.30 p.m.

Institution of Electrical Engineers. Dr. F. Luschen on "Modern Communication Systems." 6 p.m.

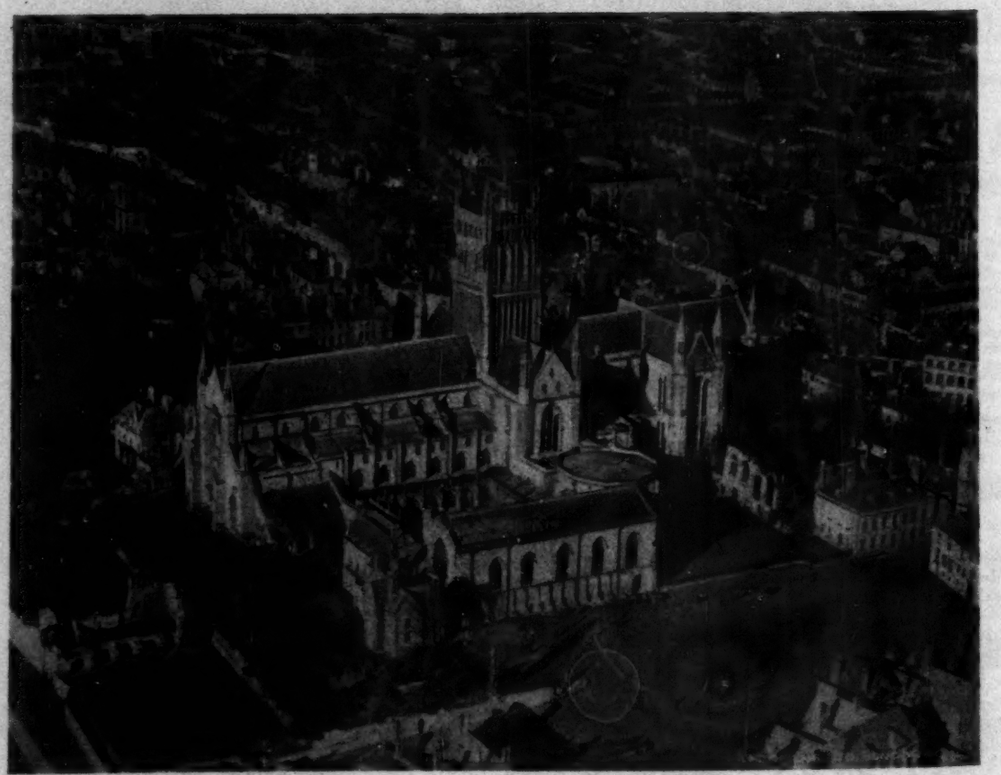
FRIDAY, *April* 8.

Royal Institute of British Architects. Annual Dinner. At Claridge's Hotel, Brook-street, W.1. 7.15 p.m.

Institute of Fuel (East Midlands Section). Mr. V. B. Harley-Mason on "Conditioning of Boiler Feed Water." At University College, Shakespeare-street, Nottingham. 7 p.m.



SALISBURY.



Photos: Aerofilms, Ltd.

WORCESTER.

Air Views of English Cathedrals.

(*See page* 567.)

ONE HUNDRED YEARS

IN the recent discussion upon the Import Duties Bill in the House of Commons, an amendment was moved and passed exempting from duty goods proved to have been manufactured more than one hundred years prior to the date of import. Upon the merits of the Bill or the clause we have no comment to make; but in the implication made by the new clause, food for thought is given. The object of the clause is obviously to release from duty works sent to this country to be kept or disposed of by re-export, and the time limit of one hundred years suggests, so far as works of art are concerned, a mental datum in the mind of the layman whereby he is to judge the qualifications of a live art.

There is no doubt that this is very much in tune with the feelings of a good many members of the public, to whom "old" and "artistic" are almost synonymous terms. But whatever the justice of the view, it is a sorry comment upon the ability of artists in this and the preceding century. The question naturally arises how far judgment excludes the art of this recent period as a thing apart from all that has gone before. Was art a living thing up to 1832, since when has it changed so completely as to fall under an entirely different category? The thought conjures up all sorts of misgivings as to the course civilisation is following, for there is no doubt that the measure of civilisation shows itself more in a living art than in any conquests in the field of battle or commerce.

We have always retained a respect for the much abused Victorians, and have kept intact a conviction that much of the art of those times will be more appreciated when the perspective of criticism has sufficiently lengthened. In the literary field alone the Victorian era can show a regiment of supermen with whom few ages could compete since the reign of Elizabeth, while painters and sculptors have shown genius peeping through the exterior of a dull convention. But it is in architecture that we have become more interested; and though this falls outside the scope of the Bill to which we have referred, architecture is bound to react to the movements and developments of the other arts, and is therefore not out of place in this setting.

The Victorian age was one of changing fashion and tradition so far as architecture was concerned. It opened with a somewhat dull remnant of the Classic tradition; lacking its refinement and grace, the fluency of the Georgian masters, and the purity of Classic proportion. It did retain, however, the framework of a consistent tradition, and a measure of dignity without which architecture becomes a triviality. Upon these qualities a revival of true Classicism was not only a possibility but did in a sense come to pass.

The Gothic revival and the successful campaign of the pre-Raphælites introduced an element of confusion into the natural course of architectural progress. The attempt to revive the feeling of the Middle Ages in the middle of an industrial era almost appeared to succeed by the enthusiasm of its protagonists. The semblance of conquest was there without the spirit in more than a few devotees, and there is no doubt that the real significance of the Gothic revival and subsequent movements has been greatly exaggerated in the minds of the students of history. It is true that out of this movement has grown a more fluent tradition in domestic architecture, of which the influence of Shaw bears evidence to this day. But even in this direction we have no means of judging against the probability of a very similar or at least equally meritorious development without these influences having been brought to bear upon it.

The chief fact which stands out from the history of the period is that never was the tradition which thrived in the eighteenth century entirely eclipsed from then to now. It is possible to trace completely and with ease the development of the Georgian tradition right through the nineteenth century down to the present day, and it is with some relief that one can turn to the evidence of life in the main stem of architectural history. It is an evidence to which many others would turn the blind eye; but it is nevertheless a fact which cannot be gainsaid by any who are prepared to face facts. Out of that tradition has grown most of the live architecture of the present day, differing as it must—differing because it is alive—from the expressions which Georgian conditions imposed upon it. It is for that reason that we have resolutely refused to distrust those reappearances in modern architecture which can be traced to historical relationship, for we have felt that these are living branches of a continuous art.

Architecture persisted, alive and with merit, because of most of the Victorians and in spite of a few. We have to thank that period for the quality of dignity which the best of our modern buildings retain, as we have to thank them for some of the most stable qualities which persist in modern society. We are not blind to their faults, but we bear witness to the many virtues which more than compensated for these. We suggest, therefore, that we should endeavour to dismiss from our minds the thought that living art died in 1832, or, indeed, at any subsequent arbitrary date; and though our legislators have obviously some purpose in fixing a date for the operation of their measure, we think it should be made clear that this is not a measure of judgment but merely one of convenience in working.

To the man in the street, however, such an enactment stands as a judgment on art. He is encouraged in his already half conviction that the old must be artistic and that a work of art must therefore be old. He will continue to judge things beautiful by the worm-hole and will demand that a great part of the ingenuity of our architects shall be directed towards contriving a fake history, which already threatens to wipe out much of the social history of this first period of the twentieth century. All this is fatal to artistic progress, and we trust our architects will continue to mould the healthy tradition to the continually changing needs of civilisation, holding the balance with wisdom between a full past and a live present and future. Without some effort towards this end there threatens a real end to continuity in art, whereby this year of grace may offer an actual datum between life and death in art. We have developed a train of thought set in motion by a parliamentary incident, and with no intention of weighing the merits or demerits of a clause which is wide of our job in any connection; and we suggest this line of thought to our readers in exactly the same spirit, believing that they, in cool judgment, will arrive at much the same cheerful conclusion at which we have arrived ourselves. Confidence in human destiny is a first essential to human progress, and there is no branch of this where it is more essential than in the development and practice of fine architecture.

Judging from the evidence of students' work which we have had the opportunity of studying recently, we think the schools are recovering some of the faith in historical precedents which they appeared to be in danger of losing not long ago. It is in that field that the greatest work can be done towards reviving the live tradition in a world of reality.

NOTES

Thoughts on Architecture.

The suggestive paper by Professor Mackail, read at the Institute on Monday, deals in generalities, and one feels that there was much he might have said in more amplified details. He no doubt feels how great is the uncertainty of our time, but, as he pointed out, the evils we suffer from will likely enough cancel each other out. He says anarchy destroys but cannot create, and so carries in it the seeds of its own destruction. Eccentricities are short-lived, for they build on quicksands. Modern architecture, whatever its faults, does not lack courage, a courage that may carry it through its aberration and extravagances. Here the professor strikes firm ground. "What it comes to is this: all experiment is erratic which is not rooted in tradition; all tradition is barren which does not embody itself in experiment. The continuity of art is fundamental. The evolution of art is perpetual."

R.I.B.A. Premises Competition.

Next week there will have been received at the offices of the Royal Institute of British Architects the many designs which have been prepared in response to the invitation to compete for the new premises for the Institute. There have been some very hopeful expectations aroused by us all as to the capacity which will be shown in this, one of the most important architectural competitions of modern times. The issue of a circular letter from the Institute gives some idea of the expectations which have been raised, and from it we quote the following paragraph:—"It is quite impossible to form any forecast as to the winner or even to fix upon a list of 'favourites.' In such competitions it is generally the 'dark horse' that succeeds. All the designs sent in will be exhibited to the public. The professional critics will have the chance of their lives and the war between modernist and traditionalist may be expected to burst into unequalled fury whatever the result may be." Of course, we are less concerned to see strikingly new feeling in design than the production of really able, well-balanced design which shows that the great essentials of fine architecture are being appreciated, and a building may result which unites interest of detailed treatment with a sense of repose and dignity which this subject so essentially calls for.

Waterloo Bridge.

The points raised by Lord Charnwood in a letter to *The Times* on the Waterloo Bridge controversy include a statement that the approximate estimate for demolishing the old bridge and building a new one has been received with astonishment by engineers with experience in such matters. Surely the Government would hardly commit itself to the support of the L.C.C. scheme unless they were assured as to the cost. The well sustained criticism by Lord Charnwood of the proposals of the L.C.C. ought to raise widespread opposition to an outrageous disregard of the educated and expert opinion on both the practical and artistic considerations which have been laid before the public. It is claimed that if adequately dealt with and reconditioned the old bridge would stand for centuries. Surely if this is so the need for a new bridge does not exist, for it is not needed to provide extra lines of traffic. Is London in so powerless a state that it cannot find protection and preservation for its great monuments?

The Building Centre, Ltd.

In reference to this venture, particulars of which were reported in our issue for March 11, a correspondent, a Fellow of the Royal Institute of British Architects, writes to us as follows: "Do you not know there is a rather strongly growing feeling of annoyance and criticism touching this advertising stunt, and that many practising architects consider it is seriously impinging upon the unwritten code of at least the older members of the Institute? Hitherto we have managed to get along pretty well without this sort of thing. That this kind of organisation might lead to abuse is not, I think, by any means the sole ground for this criticism—though that patent fact will need a lot of explaining away in the future. Trade showrooms, etc., are a curious way of 'educating' the public in the gentle art of architecture. It would be interesting to know what some of the recently past giants of the profession would have said of such a thing being promoted by architects, or what is thought to-day by many of our leaders, and how many of them will wish to avail themselves of this Bond-street architects' emporium?"

The Cost of Economy.

The new and enlarged head offices of the Abbey Road Building Society in Upper Baker-street were opened by the Prime Minister on Friday last. Those who have been disturbed at the almost general failure by local authorities to provide houses for low wage-earners at economic rents, will hear with interest that Mr. MacDonald, in his opening speech, said that the State had decided to concentrate upon assistance for houses of the cheaper kind, that could be rented at figures within the range of ordinary working-class incomes. The Prime Minister made also a significant statement upon the perils of a policy of economy pushed too far. "I wish," he said, "that I could impress upon everybody in the country that economy does not merely mean cutting down expenditure. It means cutting down useless expenditure and expenditure that cannot be afforded—expenditure that can only be met out of capital or by borrowing.

St. Swithun's School, Winchester: Great Hall.

Messrs. Mitchell and Bridgwater, AA.R.I.B.A., Architects.

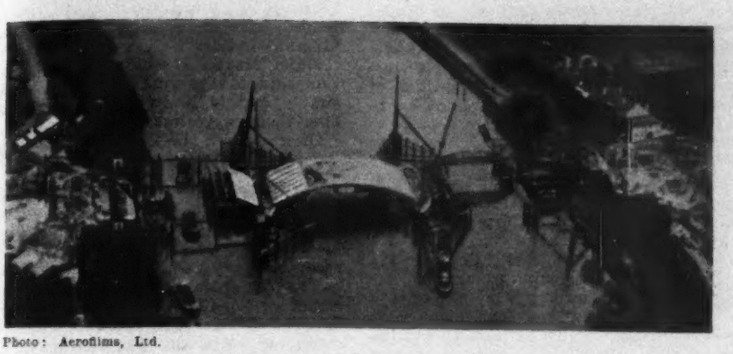


Photo: Aerofilms, Ltd.

Air View of New Bridge at Chiswick, in course of construction.

SIR HERBERT BAKER, R.A., F.R.I.B.A., Architect.

(*See page* 567).

Those who can still spend ought to spend —wisely and courageously—lest by pursuing a policy of irrational economy they may do the whole community evil by adopting the 'stocking' method of protecting capital rather than the business-like method of putting it freely at the disposal of labour so that it may circulate and fructify. There is a form of saving which is penuriousness. Let us put our heads together to use wealth wisely and in such a way that its power will not become latent and laid up in a napkin. Let us employ wealth, under no delusion as to what its amount is, so that the whole of the community may enjoy the benefits of the labour and business ability not only of our contemporaries, but of the generations which have gone before." We are glad to note that there is a slight tendency on the part of the Government Departments and local authorities to take out of "cold storage" a small part of the building schemes so hurriedly put there as a result of the unfortunate official circular of September. But too much necessary work has been laid by, and bad as things are in the building industry, we believe that they will be worse unless the wisdom that underlies Mr. MacDonald's words is profited by.

Home House.

A VALUABLE gift which will be much valued by architects is the giving into hands of trustees of Home House, one of the finest works remaining by Robert Adam. This will form the home of the new Courtauld Institute of Art until it is installed in the new London University Buildings at Bloomsbury. It was a very happy idea of Mr. Courtauld to make so valuable a benefaction.

The Cost of Flats and Cottages.

THE Ministry of Health are hoping to issue before long some suggestions with regard to the building of tenements. For some time past the officers of the Ministry have been making inquiries with a view of reducing the cost of flats. They have been puzzled by the fact that in Scotland it is cheaper to build flats than cottages, whereas in England the reverse is the case. The average cost, for example, of non-parlour houses built in England and Wales last year was £333. But the average cost for non-parlour flats in building of three or more stories over the same period was £542. This difference of over £200 is being investigated. It is recognised, of course, that foundations of any building over three stories in height must necessarily be more substantial, and therefore more costly than those required to carry a cottage. But this would not explain the difference between £542 and £333. It is thought in some quarters that the reason may be found in the greater skill and experience of Scottish builders in erecting flatted houses. The circular likely to be issued shortly by the Ministry of Health will be awaited with interest.

The Town and Country Planning Bill.

THE following resolution was recently passed by the Greater London Regional Planning Committee: "The Greater London Regional Planning Committee desire to thank the Minister of Health for re-introducing the Town and Country Planning Bill; the committee, however, trust that the Minister will resist any efforts to reduce the scope and effectiveness of the measure, which is urgently needed to secure the real interests of both the industrial and residential population, as well as of the owners of property, in the vast developments taking place in the Greater London Region." The resolution differs in certain respects from other resolutions sent to the committee, in so far as no suggestion is made of retaining the Bill in its original form.

Our Churchyards.

WE have often had occasion to lament the appearance of country churchyards both through the neglect of a decent upkeep of the tombstones and also for the general air of neglect in the grass and paths and fences. In some cases it has appeared that the responsibility for the tombstones or memorials could not be attached to anyone connected with those deceased, so that the only possible care to be sought was from the church authorities. The Central Council for the Care of Churches has now issued an interesting pamphlet on "The Care of Churchyards," which ought to be useful. The fact is that what seems to be needed is some efficient pressure being brought to bear on all those who are really responsible for the upkeep of our churchyards. In many cases we know it is the constant care and oversight of the rector which makes so many of our churchyards into the delightful oases of quiet that they really are.

Berkshire and Reading War Memorial.

MR. E. LESLIE GUNSTON, A.R.I.B.A., Architect.

GENERAL NEWS

Professional Announcements.

Mr. G. Noel Hill, A.R.I.B.A., A.M.T.P.I., at present Chief Architect with the City Surveyor of Leicester, has been appointed City Architect to the Corporation of Manchester.

Mr. George Nott, F.R.I.B.A., has removed his office from 7, St. Martin's East, to 5, Museum-square, Leicester. Tel. No.: Leicester 58526.

Proposed New Paper Mills, Dartford.

Plans are to be prepared for the important extensions to be carried out at the Dartford Paper Mills, Dartford, Kent. The architects for this scheme are Messrs. Wallis, Gilbert & Partners, 29, Roland-gardens, S.W.7. The cost will be approximately £150,000.

Bow Bells.

Sir Louis Newton has announced that Mr. Gordon Selfridge has generously undertaken to defray the cost of repairing the bells of St. Mary-le-Bow. Permission to repair the bells and to renovate and redecorate the steeple and tower is being sought from the Consistory Court. The total sum yet needed is about £7,000.

West Yorkshire Elections.

At a meeting of the West Yorkshire Society of Architects held at Leeds on March 17, the following officers were elected for the session 1932-33:—President, Mr. B. R. Gribbon, F.R.I.B.A.; vice-presidents, Messrs. Victor Bain and Colonel H. W. Barker; hon. treasurer, Mr. Douglas Bowman; and hon. secretary, Mr. Norval R. Paxton.

Proposed Pier, Whitley Bay.

Messrs. Oliver and Roberts, 6, Broad Street-place, London, E.C.2, have submitted plans to the Whitley Bay and Monkseaton U.D.C. for the establishment of a pier 1,246 ft. long at Whitley Bay. The scheme provides for a new theatre, ballroom, and exhibition hall, with the various offices in the form of shelters and cloakrooms. The Council approved the scheme in principle.

Obituary.

At the last meeting of the R.I.B.A. the hon. secretary announced with deep regret the death of the following:—

Adalbert Rerrich, of Budapesth, elected Hon. Corresponding Member, 1931.
Leonard McConnell, elected Associate, 1921.
Charles George Miller, elected Licentiate, 1911.

R.I.B.A. Annual Dinner, 1932.

For the convenience of members and their guests from the country who propose attending the R.I.B.A. annual dinner on April 8, arrangements have been made with the Railway Clearing House by which "fare and a third" rate for the double journey will be available from April 7 to 9 inclusive. Tickets at the reduced rate will be obtainable from any station outside London on production of a voucher to be obtained on application to the Secretary, R.I.B.A.

Waterloo Bridge.

The following letter has been sent to *The Times* by Sir Mervyn Macartney and Mr. W. Godfrey Allen, from the Surveyor's Office, at St. Paul's Cathedral:—

"May we be permitted, through the medium of your columns, to express our whole-hearted agreement with the memorial to the Prime Minister in connection with Waterloo Bridge? This is surely not the time to take a step so momentous as the destruction of one of the world's finest architectural monuments—a step which in the end may prove to be short-sighted."

Piccadilly Circus Lighting System.

A new electric system for Piccadilly Circus, which is to be switched on as soon as the improvements are completed, comprises the use of sixteen lamp standards, twelve of which will be 25 ft. in height. With the exception of four bronze standards around the Shaftesbury Memorial, which have single globes, all have three lanterns each. There is, therefore, a total of forty lamps, each of 1,500 watts, giving a total consumption of 60,000 watts. The standards were designed by Mr. Arthur Davis, F.R.I.B.A. A feature will be the floodlighting of the Eros statue from four standards around the refuge. The cost for the service, including current, cleaning and maintenance, will amount to £436 per annum, or just over 2s. per hour.

Private Architects and Official Buildings.

A lengthy discussion took place at a recent meeting of the Lanark C.C. on the general question of the employment of architects in private practice on undertakings of the Council. The matter was raised by the reading of a letter from the Secretary of the Glasgow Institute of Architects, requesting that a share of the architectural work of the County Council should be entrusted to architects in private practice. Mr. William C. Lee—in moving a resolution to the effect that in connection with the erection of all new building undertakings promoted by the County Council, or over which they had control, the services of these architects might be utilised—said he did not wish to pass any reflection on the work of the architects employed by the County Council. What he proposed would probably have their support, as his feeling was that they had enough to attend to with housing, town planning, and the ordinary works department. If the Council supported the resolution, he added, they would be tending to introduce fresh ideas and more variety of design, as well as up-to-date methods of construction. The best buildings in the country to-day, he contended, were the result of competitive planning and building.

Major Monteith, who seconded the resolution, said, if they were to get new ideas, they simply had to invite outside architects to offer their suggestions.

On a division the motion was adopted.

Manchester Flats at Cheap Rentals.

The plans which have been prepared by Mr. Albert Winstanley, of Manchester and St. Annes, for the building of five-story blocks of flats on Fog-lane, near Parr's Wood-road, Didsbury, Manchester, have now been passed by the Manchester Town Planning and Buildings Committee. The flats have been designed to the commission of Mr. Joshua Cockshutt, with the intention of providing convenient house-room for small families of people who are not able to live far from the city and cannot afford high rentals. The rents of these flats, including the rates, will probably be less than 35s. a week; they will be equipped for lighting, heating, cooking and refrigeration by electricity; they will have lifts, and it is hoped that some sort of roof garden can be made upon the concrete flat at the top. This will be the easier since there are no chimneys in the building. Altogether the plan comprises fifty flats with two bedrooms and sixty flats with one bedroom. The standard flat contains a dining-room, 12 ft. by 14 ft.; an entrance hall, 12 ft. by 6 ft.; a kitchen, 8 ft. by 7 ft. 6 in.; a bathroom and lavatory combined, 7 ft. 6 in. by 7 ft. 6 in.; a bedroom, 12 ft. by 13 ft.; and where there is an additional room, a bedroom, 10 ft. by 7 ft. Generally speaking, the flats are designed to occupy the thickness of the building and thus get light from both sides. Some of the halls are 14 ft. by 6 ft., and all of them are indirectly lighted from the staircase wells.

COMPETITION NEWS

R.I.B.A. new premises. Assessors, Messrs. R. Atkinson, Charles Holden, H. V. Lanchester, P. S. Worthington, and Sir Giles Scott. Premiums, £500 and £750 among runners-up.....	Particulars published in Sending "Builder." in date.	
For designs for new Town Hall and Municipal Buildings, for Walthamstow T.C. Mr. H. Austen Hall, F.R.I.B.A., assessor. Premiums, £500, £300, £200 and £100. Conditions from Mr. F. C. Garner, Clerk, E.17. Dep. £3 3s.	April 19	March 31
Designs for Bank Façade in granite, organised by Cornish Quarry Masters' Association. Open to "A.A." members only. Messrs. A. B. Knapp-Fisher, C. Lovett Gill and V. O. Rees, FF.R.I.B.A., assessors. Prize £50. Details from Sec., "A.A.," 34-6, Bedford-square, W.C.	Sept. 19 Sept. 4	March 31
Design for all-British house to cost £1,000 exclusive of site and architect's fees. Premiums of 50, 20 and 10 guineas. Conditions from organisers Incorporated Association of Architects and Surveyors, Wilbraham-place, S.W.1	Jan. 1	March 31
Open Competition designs for new Hospital Buildings on Woodlands Estate, Scarborough, for Scarborough Hospital and Dispensary. Premiums of £300, £200 and £100. Assessor, Mr. Hubert M. Fairweather, F.R.I.B.A. Conditions from Mr. J. Douglas Munby, Hospital Hon Sec., Scarborough. Dep. £1 1s.	Nov. 20	Sept. 1
Designs for buildings for the practice of sports, for Tenth Olympic Games. Prizes will be awarded by international jury. Details from Mr. L. Rome Guthrie, c/o R.I.B.A., 9, Conduit-street, W.	March 4	Oct. 1
Designs from architects resident in Scotland for new advanced school, Inverness, for Inverness County Council. Assessor, Mr. J. D. Cairns, F.R.I.B.A. Conditions from Mr. R. Robertson, County Surveyor, 26, Bank-street, Inverness. Dep. £2 2s.	Jan. 22 March 4	—

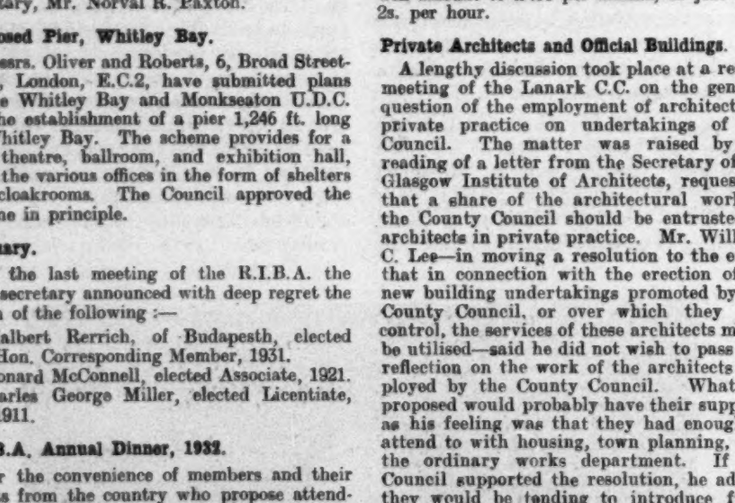


Photo: Aerofilms, Ltd.

Air View of Nottingham Housing Estate.

(*See page 567.*)

"THE BUILDER" DEBATE

XLIX.—OPENING OF TENDERS.

SIR,—I feel I must correct any false impressions I may have made.

In the first place, I do not rest my case merely upon instances where tenders exceed the architect's estimate. I chiefly stand for the principle that until a client has had the opportunity of considering the bargain he contemplates, results should not be published. In many cases, particularly where there is a general exaggerated belief in a falling market in building prices, a client often proceeds with his authority to obtain tenders believing that the results of these are likely to prove a pleasant surprise in comparison with the architect's approximate estimate. He is quite entitled to back his judgment against that of his architect if he is willing to run the risk of his commitments, and under such circumstances he is equally entitled to consider the situation before others are admitted to the news.

On the question of fair play, "Positive" appears to admit that the qualified architect is generally considered above suspicion even by the builders. I submit that when we are debating rules of conduct for the profession we are concerned with the *bona-fide* practitioners and not with Tom, Dick and Harry. On his own showing, his point therefore hardly arises.

On the third point, I would point out that we are not examining birth certificates. I am not putting forward the views of a young greenhorn, as "Positive" appears to think, but those of an active practitioner with twenty-five years' experience in the profession, applied to conditions as they maintain to-day. The throwing of a smudgy blue print and scrappy specification to a builder has nothing whatever to do with the principle we are debating; which is whether or not tenders should be opened in the presence of the competing builders. I can see no point in his argument which offers real support to his case. NEGATIVE.

SIR,—In this debate it is assumed the practice of giving builders a list of tenders is common ground. The point then arises, What is the best method to adopt in opening tenders and publishing them? Unquestionably, the old practice of opening them in the presence of the client and the competing contractors is the most satisfactory, and my submission is that it does not operate against the interests of the building owner.

Again, I contend that reversion to the old practice would be no reflection upon architects; in fact, I suggest it would help them. Clients cannot be held to be conversant with the costs of tendering, neither can they be expected to appreciate the loss that contractors may sustain from fluctuations in the prices of materials during the interim between the opening of tenders and the completion of the contract documents. I consider, therefore, it is the architect's duty so to order the procedure that by it he is able (without offence to his client) to see that it conforms with trade custom.

If an architect is unable frequently to accept the lowest tender submitted, or withholds information as to the result of tendering unnecessarily, or gives his clients estimates of the cost of projected works which are so low that they are misled, and have to abandon their schemes, then contractors will not display the same keenness in competing for his work, and he will lose any reputation he has for getting his designs produced at a reasonable figure.

Why should an architect accept the unnecessary responsibility of opening tenders in seclusion? He stands to gain nothing either from client or builder. A point often taken against declaring the result of tendering before the contract is signed is—the "successful" firm may "discover" an error in estimating to bring his tender closer to the next above. But this is met by the proposition that the cost of withdrawing a tender should be the difference between these two tenders. To some extent tendering is a lottery to the contractor, and I ask, Would the universal popularity of the "Irish Sweeps" remain if the draw were secret? BOURNEMOUTH.

SIR,—This is a subject which it is not easy to be positive about. Locally, at least, most builders and architects are well known to each other (whether they know it or not) as straight-dealing men or otherwise. An experienced architect, instinctively, has all his usual contractors graded according to quality of work and relative value of same to tenders submitted.

The greatest blunders are usually made where a client insists on certain second-rate contractors being asked to tender, and, in spite of the architect's advice, insists on accepting the lowest, when in the architect's opinion the second, third or even the highest would give best value for the outlay.

It is easy to talk about accurate drawings and detailed schedules, but a contractor's reading of these is determined by his experience and natural inclinations toward conscientious work. Unless an architect gets a free hand to use his discretion, the work is most likely to suffer. Few of us are energetic enough to be able to carry a punctilious justice into the smallest details of life, but we must remember that one contractor with a grievance is sufficient to endanger an architect's good name in the building world. Life has become a nightmare to the conscientious man, and it well behoves us to see that we play the game. A. FORFAIT.

SIR,—The debate on this question has recalled experiences which probably were not uncommon at one time. The custom of an architect friend of mine was to require tenders to be delivered "at or before noon on Saturday," and on the face of it this seemed a very convenient arrangement. It happened, however, that for most of the work in the district there were only some eight or ten contractors desirous or capable of tendering, and it was noticed that each appeared to be successful from time to time; it was rare that one secured more than his share. Intercommunication was suspected.

Many of the contractors objected to the figures being announced at this meeting—they preferred to receive the information through the post. Objection was taken by some to the publication of any figure other than that accepted, and the objection is held by many to-day. The opening of tenders by the architect in the presence of his client is not discussed, and yet this is likely to give more satisfaction, for, speaking generally, the builder has experience of professional architectural etiquette which the client has not. QUANTITIES.

SIR,—Those who are in favour of fair play as a first consideration will offer "Positive" their full support. The two parties to a projected contract should open negotiations upon a fixed understanding, viz., that the builders should compete on equal terms, and that the results of the competition should be no secret. There can be no real object in suppressing the results other than the desire to keep matters in a state fit for "wangling," and the idea is repugnant to the fair-minded individual. Firms called upon to spend time and money in an attempt to secure a job should be advised where they stand without a single moment more delay than can be avoided.

FAIR PLAY IN PRACTICE.

An "Amenities Clause," Bexley.

At a meeting of Bexley Urban District Council, held recently, a resolution providing for an "amenities clause" being inserted in the Council's Town Planning Scheme, was adopted. This will give the Council power to call for the alteration of such plans as, in their opinion, are injurious to the amenity of a neighbourhood.

CORRESPONDENCE.

The Registration Act and Unattached Architects.

SIR,—No technical journal would appear to be complete without a letter from Mr. William Davidson, and, though his contribution is not always convincing or even well-argued, it is quite often amusing.

The world is full of surprises, and the latest surprise is to have it hinted by Mr. Davidson that he is a logician and psychologist. Your readers may well be forgiven if they decline to swallow the hint, for Mr. Davidson takes an egregiously cock-eyed view about the official representatives of the "unattached" members of provincial associations.

The three, he writes—and we must assume that he believes what he writes—are "free from any personal interest in this matter," and "will be able to make very much stronger representation of the case for 'unattached' architects than one of their own number." I do not know whether this is supposed to be psychology. It certainly is not logic.

G. B. J. ATHOE, Secretary,
Incorporated Association of Architects and Surveyors.

Shrewsbury Bridge.

SIR,—I have read with very great interest Major G. B. J. Athoe's letter on Shrewsbury Bridge and its reconstruction. I have surveyed, drawn and photographed many old bridges and would suggest that one of the main charms of these old bridges is due to a certain relation of parts between the height, length and breadth. I do not know Shrewsbury, but from Major Athoe's lucid description much of its charm must have been lost by the alterations in height and increase in width. It is extremely doubtful if this method of tinkering with and rebuilding old bridges in the manner described is the real solution of the bridge problem. In this and similar cases we have a bridge which has neither the charm of proportion of the old bridge, nor is it a courageous new bridge, such as some of the new bridges on the Rhine.

The best solution in many cases would seem to be to leave the old bridge for pedestrians and light traffic, as at Berwick, and build a new bridge for heavy traffic. Where possible, the new bridge should not be within sight of the old. Where buildings already exist this is difficult, but in unplanned areas it should be easy. EX RE NATÂ.

TOWN AND COUNTRY PLANNING BILL.

THE Minister of Health received last week a deputation from the National Housing and Town Planning Council regarding the Town and Country Planning Bill. The deputation was introduced by Mr. W. H. Gaunt, O.B.E. The speakers were Sir Leslie Scott, K.C., the Earl of Mayo, and Dr. Raymond Unwin. The deputation included representatives of local authorities and of societies interested in the subject of town planning.

Sir Leslie Scott expressed the fear of the deputation that the amendments made in Standing Committee to Clause 6 of the Bill would prejudice good planning by preventing the inclusion in planning schemes of land for which planning powers were needed.

Lord Mayo endorsed this view and said that neither the Land Agents' Society nor the Central Landowners' Association, who represented a considerable majority of landowners, had suggested any alteration of Clause 6 of the Bill to curtail the scope of planning.

Dr. Unwin expressed a fear that the amendments made would destroy the efficacy of planning, especially in built-up areas.

The Minister said that it was, of course, true that the scope of planning had been substantially limited by the amendments made in Standing Committee to Clause 6 of the Bill. Nevertheless, he believed that the Bill as it now stood would enable planning schemes to be prepared for any land which there were reasonable grounds for planning.

"A LAYMAN'S THOUGHTS ON ARCHITECTURE."

A THOUGHTFUL and scholarly paper on this subject was read by Professor J. W. Mackail, M.A., LL.D., at the R.I.B.A. on Monday evening, when the chair was occupied by the President, Dr. Raymond Unwin. Beginning with definitions of the word "architecture," the lecturer said that such of them as were mere figures of speech, *e.g.*, that architecture was the rhetoric of building, or that architecture was frozen music, might be dismissed as unhelpful; they were fireworks rather than illuminants. As a working definition, Sir Reginald Blomfield's "art of ordered building" was excellent; it had to be added, however, that the two words "art" and "ordered" required, as they repaid, careful study. It was useful to recollect that "art" originally meant practice," just as "science" originally meant "knowledge." Science in its more specialised sense, a body of generalisations based on observation and experiment, was inseparable from art. Applied science was, in fact, art in the widest sense of the word art. But applied art was meaningless; art not applied, practice not practised, did not exist. If we thought of architecture as not merely an art, but a fine art (a liberal art, as our ancestors used to say), it was fundamentally true that, as such, it aimed at and accomplished something different from, and higher in the scale of human value than, *mediocris utilitas*, "commonplace usefulness." Further, as Greek thinkers also realised and insisted, it was not only a fine art, but the mistress-art. Other arts, in so far as their work was embodied in visible and tangible material, were, or ought to be, subordinate or ancillary to it. And even in those arts the products of which were immaterial, in music, for instance, or in literature, we spoke by an easy metaphor of their architectural quality. The Greek doctrine then was this: just as in the sphere of human life there was one supreme science, corresponding to one supreme end, that of ordered human life, or what we called in a single Latin word, civilisation, so in the sphere of workmanship there was one supreme art, corresponding to one supreme end, that of a material environment in which civilised mankind might fitly live.

Architecture, he continued, kept adapting itself, whether consciously and deliberately or unconsciously, in organic development or under external pressure, to changing civilisation. The process went on; only it was partly masked by the fact that the effects lagged behind the causes. Revolutions in architecture meant its adaptations to new purposes, to altered methods of life. Taking a long view (and for the architect, if he was to be, as his name implied, master of his art, long views were essential), there might be traced in it a periodic movement; but, as with development in live organisms, that movement was not in a circle returning into itself, but in an elliptic spiral. Newton's law, the first proposition of the Principia, applied here: equal areas were swept over in equal times. When near the focus movement was very rapid, when far from it very slow. It might remain almost stationary for a millennium; it might transform itself in a single generation. The lecturer then proceeded to give an illuminating commentary on architecture, ranging from the Minoan period to the present day.

Modern architecture, he said, whatever its faults, did not lack courage; a courage that might carry it through its temporary aberrations and extravagances. Fashion and the revolt against fashion tended to cancel one another out. The stability of civilisation depended not on the clever people who exulted over its failures, not on the stupid people who were content to muddle along, but on the commonsense of mankind. Anarchy destroyed, but could not create, and so carried in it the seeds of its own destruction. Eccentricities were short-lived, for they built on quicksands.

What the final judgment on any work of architecture turned on was whether or not it was right. Rightness could not be defined or reduced to rules; it could only be felt. It was not a collection of facts, but a quality; and its quality was that it satisfied. In judging any work of architecture, the question was not whether it was in one style or another, whether it was classical or romantic, whether it was in brick or stone or concrete or wood or steel. In all styles and methods and at all periods when art had been fully alive and the artist had had scope to exercise it, there were examples of this rightness having been achieved. The Parthenon and the Pantheon, Agia Sophia and Notre Dame d'Amiens, Morden College and the Radcliffe Camera, were all of them right, one not more right than another. There were buildings, the work of architects now living, which gave this same satisfaction. To say that the machine had conquered its maker was a mere figure of speech; the machine only did what it was made to do.

Largeness, amplitude, was not a matter of size. It was as manifest and as vital in the smallest and simplest as in the biggest buildings. Its presence or its absence was what gave the quality of a cottage or a barn or a village street just as much as of a palace or a cathedral or a city. The architect, in planning and executing all these things, had to exercise the same qualities of intelligence and imagination; had to project into his work the same instinct. His work would, in either case, be ignoble only if he failed to make it noble.

So likewise order, proportion, was not a matter of measurements or mathematical formulæ. It was too subtle to be reduced to rule and set as a copy; it was the highest type of vitality. It might be called the projection of melodiousness into the structure. A picture, a great painter once said to him, ought to sing: the same applied here. Some sense of this was at the root of the legends of temples and palaces and cities built to music, or even, in a more daring flight of imagination, built by music. According to the magnitude of the work the melodies became more richly harmonised and more fully orchestrated. More science was applied to the art; but it was the same art.

Rules of proportion were merely generalisations and abstractions drawn, interestingly enough, from examination and measurement of actual works of art. The sense of proportion was potentially innate. To become effective it must be educated, must be fed into a trained instinct. The education required for that purpose was that of the architect himself, of the artificers who worked under him, and much more widely, of the whole community. The architect was helpless if his workmen could not do what he meant them to do; he was hardly less helpless if his employers, whether individuals or communities, forced him to do what he did not mean. The education of the public, of the massed millions of laymen who secreted the product called public opinion, was too large to touch upon; but he thought we might say that it was making sensible progress. The education of the artificer was, he believed, becoming more and more effectively organised. Yet it was not without some alarm that he recently read in the *Journal* of the Institute a recommendation of the use of sawn and not riven laths for keying plaster upon, on the ground that the spacing of riven laths was more dependent on intelligent workmanship; as though unintelligent workmanship were a thing to be not merely accepted but encouraged. Unskilled labour was only the raw material, or the regrettable residuum, in a fully civilised commonwealth; there was no labour which might not be highly skilled.

And as to the architect himself: With the increasing complexity of modern requirements and of the machinery for meeting them, his professional training became more and more complicated. He had to be trained not only in the art of building, but in all the applied sciences that bore upon it: chemistry, metallurgy, hydrostatics, acoustics, lighting, heating, ventilating, for in all these subjects and many others, his work was constantly bringing him up against problems that had to be dealt with, mistakes that had to be remedied, difficulties that had to be surmounted. It was more than ever necessary that this superstructure should be based upon a large and liberal education, the education that should have taught him how to learn, should have made him know the difference between knowledge and half-knowledge, should have fed (the word *education* meant *feeding*) his intelligence and his imagination, should have made him acquainted with tradition and equipped for experiment. Architecture was human; and the architect must be grounded in humanism.

Discussion.

Mr. Cecil Lubbock, proposing a vote of thanks to the lecturer, said he sometimes thought that the powers of the architect over the treatment of our surroundings were too great. A picture could be consigned to the basement; music need not be played; but a building remained. A nation no doubt got the architecture it deserved, and therefore it was important that the layman should be educated in architecture.

Mr. A. B. Knapp-Fisher, seconding the motion, recalled Ruskin's dictum that architecture was an art for all men to learn, because all men were concerned with it. Professor Mackail had given them a most delightful sketch of architecture throughout the ages.

Professor Beresford Pite said that the intuitions that produced fine architecture were incapable of definition. A sense of proportion was impossible to conceive without some standard. The mediæval builders had it, but he suggested that it was entirely unconscious. The speaker recalled the late Professor Lethaby's remark that if humanity went on all-fours the proportions of the ordinary doorway would have to be reversed. Referring to the nineteenth century, the speaker said that what was wanted was a searching and just criticism of the whole period, of which the Gothic Revival was the outstanding peak.

Mr. Theodore Fyfe having supported the motion,

Mr. C. Roden Buxton, speaking as a layman, described his emotional reactions to a number of prominent London buildings, and said that the Houses of Parliament reminded him of nothing so much as a sectional bookcase which could be added to or subtracted from as one pleased. Westminster Cathedral campanile he described as one of the most beautiful and thrilling things in London, and he thought the best place to see it from was the Green Park, near the Ritz Hotel.

Mr. W. R. M. Lamb having spoken, Professor Mackail briefly acknowledged the vote of thanks.

THE LONDON SOCIETY

"ILLUMINATING LONDON."

SIR LIONEL EARLE, K.C.B., occupied the chair at a meeting of the London Society on March 18, when a paper on the subject of "Illuminating London," prepared jointly by Messrs P. Good and J. Ames, was read by Mr. Good.

In dealing with the criticisms of the floodlighting of London last September, it had not to be forgotten, said the speaker, that in each case the work was entirely temporary and no interference of any sort with the building was possible, so that the best results were not always obtainable. In certain cases, if a permanent installation were in contemplation, different arrangements would require to be made, so that in criticising the actual results provided last September, those conditions had to be allowed for. The public appreciation of the results was spontaneous and almost overwhelming, and it was submitted that it would be foolish to dismiss that interest either as a public craving for a free show or to mere inquisitiveness. Criticisms had been made chiefly on æsthetic grounds, and, as such, were very much a matter of individual opinion. Those to which greatest prominence had been given were :—(*a*) the buildings were more beautiful by night without any light; (*b*) the architectural character was destroyed because the lighting was in the wrong direction; (*c*) the lighting was unnatural; (*d*) the buildings were so bad architecturally that "Night, thank God, shut them from view." That last criticism was made by an architect with some fine ultra-modern work to his credit, so that perhaps Emerson might not appeal to him, but there the truth might be said to be proved of the poet's words: "There is no object so foul that intense light will not make beautiful."

By far the greatest volume of criticism arose from the contention that the direction of the lighting was wrong, and that being wrong in direction it produced a flat picture or destroyed the character of the architecture. What, asked the speaker, was the right direction for light to fall on a building? Did the architect decide that before he designed the façade? Did he design consciously with this in view? Did not daylight vary in direction, in intensity, in colour, over a wide range in each case? The direction of natural light varied from horizontal to almost vertical, the intensity from 1/10 ft. candles to 300 ft. candles. There was also much reflected light, and the angle from which a façade was viewed varied greatly also. Superimposed on those variables was the change in colour and the weathering of the building itself. All architectural treatment must therefore have been a compromise, and there was surely a reasonable chance that well-directed artificial light could be just right. An eminent architect expressed the view that if floodlighting were to become a permanent feature or to become an integral part of the architect's study, he would have to stand on his head to prepare his elevation! It was the belief of many that in the past he never gave a moment's thought to the effect of the light on the façade he was designing. In fact, it might be postulated that the chief criticism of floodlit buildings had arisen because the architect had been found out! For long enough it had been said that the mouldings and general design of a building were specifically to suit the light when really they had, since prehistoric times, been simply copies into which the consideration of the effect of light could barely have entered! Architecture had been defined as the art of erecting expressive and beautiful buildings, and buildings could not be expressive or beautiful if they could not be seen, and they could not be seen without light. It might not always be fully realised that the actual work the architect did in making the façade of his building expressive and beautiful consisted solely in providing surfaces which by the varying reflecting qualities would create a beautiful picture, expressive of the building and its purpose. Unless there was light nothing of the sort had been produced, and now that the production of artificial light had reached a stage where plenty of it could be provided just where required, at a reasonable cost, the architect had not only the opportunity of a much fuller expression for his culture, but its results could be appreciated for a much longer period of time, and by more people. In other words, whilst the architect in so far as the actual structural work was concerned was in a sense simply a constructional expert, for the rest he was, so to speak, a manipulator of light, a manufacturer of reflecting surfaces, and had to learn to use the artificially produced light on the exterior of his works, as much as he had to learn to use daylight.

That the lighting was unnatural had to be conceded, if by that was meant that it was the result of man's effort rather than of Nature's. Even, however, if the artificial lighting itself was to all intents and purposes of the same general direction and character as daylight—and it could be made so—the background of night was quite different from the background of day. While we had, therefore, an artificial effect, generally of strongly contrasted light and shade, it was one which could be nevertheless as beautiful and correct as any created by natural lighting. Had powerful sources of artificial light always been available, it was quite likely that everyone would be used to those night pictures and their unnaturalness appear by now to be quite natural. The architect must in future gain a scientific understanding of light and lighting, the lighting engineer must also acquire an educated sense of æsthetic values.

The speaker, after amplifying the points by means of certain models, spoke of the reasons for floodlighting London buildings. These, he said, were threefold :—

(1) That it really did beautify the city.

(2) That it had a psychological effect on the people which was most beneficial.

(3) That it would help to attract foreign visitors.

The question of cost could not be left out. Cost was, of course, a matter of perspective. Large sums were spent on the architectural decoration of the façade of an important building, which decoration could only be seen by daylight. For a small additional percentage of those sums a suitable lighting equipment could be installed and endowed in perpetuity, rendering the beauties of the building visible by night as well as by day. The money spent on the design features or decorative treatment of the façade of a building was solely for the purpose of its being seen, and in a city in many cases the extent to which it was seen might be nearly doubled by lighting it in the evening, and in view of the greater leisure in the evenings it was equivalent to much more than double. Taking, for instance, the façade of Buckingham Palace, five per cent. of the present-day cost would go far towards the installation and endowment of a satisfactory lighting equipment.

THE SURVEY OF LONDON

SOME account of the scope and value of this work, which is now proceeding, was given to the Auctioneers' and Estate Agents' Institute of the United Kingdom, at their headquarters at 29, Lincoln's Inn Fields, W.C., recently by Mr. Percy W. Lovell, F.S.A., B.A., A.R.I.B.A. (secretary to the London Survey Committee). The London Survey Committee, commenced the lecturer, was the only one formed with the object of preparing full architectural and pictorial records of all existing buildings and monuments of historic interest in and around the metropolis. The Committee came into existence in order to stimulate the historic and social conscience of London shortly after a house, known as The Old Palace of Bromley-by-Bow, had been delivered into the hands of the housebreaker by the London School Board in 1893. Certain parts of the fabric were preserved in consequence of the efforts of (amongst others) Mr. C. R. Ashbee and the late Mr. Ernest Godman, the virtual founders of the Committee, and the authorities purchased the panelling and chimney-piece of the principal room for the Victoria and Albert Museum in South Kensington. When the Committee was formed, with Lord Leighton as its president, Mr. Ashbee became the chairman, and Mr. Godman the organising secretary. The task of compiling a register of ancient buildings and objects of interest was taken in hand at once, the immediate work of the Committee being confined to the East End of London and to Essex, where destruction was considered to be most imminent.

After giving some details of the Committee's work, and bringing the outline of the story down to the present day, the lecturer said that, in short, the Survey Committee felt that it was preparing a storehouse of knowledge for all future architects and surveyors, and others responsible for the management of estates, and it was confident that those great professions would be ready to take a share in the good work. There were a number of ways in which, by a little organisation, such professions could materially help. In the first place, it was important that notice should be received as early as possible whenever property of any age was likely to be disturbed. And in this connection there need be little fear that the Survey Committee was likely to prove hostile to undoubted improvements simply because they involved the demolition of old buildings. There should be reason in all things, and the members of the Committee, several of whom were architects and surveyors, were fully alive to practical needs. But all might agree that the record of those buildings was a good thing, and many would find that the reconsideration of a given project might result in the possibility of adaptation in place of complete removal. Two heads were notoriously better than one, and it was a great gain if in each case there was full knowledge of the relative value of the existing buildings, and a careful consideration of all possible plans for utilising them. In the second place, surveyors and estate agents could assist greatly in according facilities for measuring and photographing the buildings, and, where surveys had to be made, by providing the Committee with copies for their archives. Thirdly, the Committee was always glad to direct students who were preparing drawings for their examinations, etc., to buildings which required record, so as to avoid unnecessary overlapping. And, finally, the professions could assist materially by increasing the subscribing membership of the Committee, and so enabling them to obtain paid assistance for the research that was essential to their work. More than one firm of house agents had already discovered how useful the Committee might be to them, and he had had, said the lecturer, the pleasure of providing them with accurate historical particulars of houses that they wished to sell. It would not only be a graceful recognition of this service, but a lively anticipation of favours to come, if those firms would join the supporters and subscribe to the books. The members of the Active Committee gave their services, and the publications were thus freed of much expense, while, in the case of the parish volumes, printing and binding was undertaken by the L.C.C. In conclusion, the lecturer said that an opportunity had presented itself of obtaining, through the medium of the Architects' Employment Scheme (launched by the Royal Institute of British Architects), voluntary help, for at any rate part of their time, from architects' assistants temporarily unable to obtain work owing to the financial situation. Measuring of ancient monuments was actively proceeding in several districts in the County of London.

ILLUSTRATIONS

PLATES.

St. Swithun's School, Winchester.

St. Swithun's School was founded in 1884, and since that time has occupied a site in the city of Winchester. Early in 1930 it was decided to rebuild the school on the top of Magdalen Hill Down. Complete plans were drawn up for a large range of buildings around a quadrangle or campus, 1,000 ft. long by 350 ft. wide, with all the buildings facing inwards. When the scheme is completed there will be accommodation for 240 boarders and 60 day girls, the usual classroom accommodation, with chapel, swimming bath, gymnasium and other subsidiary buildings.

Work was started late in 1930 on the new teaching block, which is in the centre of the north side of the quadrangle, and it is this building which the Princess Royal opened on March 10. The new teaching block has a frontage of 250 ft., and has a simple and dignified elevation. The centre is very strongly marked, since the entrance to this building will be the main entrance to the school. The only other entrance of any importance will be that to the chapel, which will be in the centre of the east end of the quadrangle where the ground rises slightly. All the buildings will be connected by a cloister or colonnade and designed so that there will be complete circulation under cover.

The building is built of a dark orange coloured brick with quoins of a somewhat deeper shade, with bath stone dressings. Other features of the main front are delicate wrought-iron balconies, some fine leadwork touched here and there with gold, and circular-headed ground-floor windows. The exterior woodwork is painted cream, with green stippled doors.

The general effect on entering the building is one of spaciousness. The double staircase is of good proportions, and the corridors are wide and well lit. The east end of the building is given up to science laboratories, which are well fitted up. The west end of the building is occupied by dining rooms, kitchens and domestic science rooms. In the centre of the building, projecting towards the rear, is the school hall, being used at present as a gymnasium also, with windows carried down on both sides to the ground. Great attention has been paid to the acoustics of this hall, which seats 600, with an additional 150 in the gallery.

The building is warmed by low-temperature ceiling panel heating, with magnetic valve control. The temperature of every part of the building is independently controlled by separate thermostats. This method of heating allows a great deal of fresh air without draughts.

The contractors were Messrs. Chapman, Lowry and Puttick, Ltd., of Haslemere, Surrey, and the following firms were associated with the work: Williamson Cliff, orange facing bricks, supplied by Roberts Adlard and Co., Ltd.; Crittall and Co., Ltd., heating; Blockleys, Ltd., Shropshire, roof tiles; Grierson, Ltd., electric work; Best and Lloyd, electric light fittings; Trussed Concrete Steel Co., Ltd., floors; Jos. F. Ebner, oak floors; H. H. Martyn and Co., Ltd., Cheltenham, front entrance porch, stage front and wrought-iron balconies; J. L. Emms, leadwork; John Bolding and Co., Ltd., sanitary fittings. The sculpture on the panel is by Miss F. I. Sayers.

Messrs. Mitchell and Bridgwater, A.A.R.I.B.A., are the architects.

New Coach Station, Buckingham Palace-road, Victoria.

This new coach station is one of the first to be built in London. The main front faces Buckingham Palace-road, with a return front to Grosvenor-gardens. The entrance is on the angle of the two roads. The station is both a starting and terminal one. The ground floor provides a large area for garaging the vehicles, booking offices, and a large public waiting hall. The first-floor plan is illustrated this week. Architecturally the building shows the modern spirit both in design and construction. It is well lighted and utilitarian in character, the tower providing a dominating landmark.

The general contractors were Messrs. Wilson Lovatt and Sons, Ltd., and the following firms were associated with the work: Willment Bros., demolition and excavation; Wilson Lovatt and Sons, Ltd., foundations, dampcourses, reinforced concrete and joinery; Ragusa Asphalte Paving Co., Ltd., asphalt; E. J. Elgood, Ltd., granolithic work; Wiggins, Sankey and Co., Ltd., bricks (stocks); London Brick Co. and Forders, Ltd., bricks (Flettons); Stuart's Granolithic Co., Ltd., cast stone; Dorman, Long and Co., Ltd., structural steel; Carter and Co. (London), Ltd., tiles, terrazzo, faience and stair-treads; Hemel Hempstead Patent Brick Co., Ltd., and Moler Products, Ltd., partitions; A. Higginbottom and Son, glazing; R. W. Brooke and Co., Ltd., wood block flooring; H. W. Dutton and Co., Ltd., central heating and ventilation; Gas Light and Coke Co., gas-fittings; Ideal Boilers and Radiators, boilers; Electrical Installations, Ltd., electric wiring; W. H. Gascoigne and Co., Ltd., plumbing; Leeds Fireclay Co., Ltd., sanitary fittings and tiling; E. J. Elgood, Ltd., Comyn Ching and Co., Ltd., Lockerbie and Wilkinson, Ltd., door furniture and metalwork; Mellowes and Co., Ltd., casements, window furniture and patent glazing; Samuel Haskins and Sons, folding gates, rolling shutters and shop fittings; Haywards, Ltd., iron staircases and pavement lights; G. Fletcher, plaster and decorative plaster; Mather and Platt, Ltd., sprinkler installation; R. C. Cutting and Co., lightning conductor; Tuke and Bell, Ltd., sewage ejector plant; John Bennie, Ltd., electric passenger lift; Geo. Johnson, Ltd., hand goods lift; Magneta Time Co., Ltd., clocks; W. H. Gascoigne and Co., water supply.

Messrs. Wallis, Gilbert and Partners are the architects.

THE MUDDLE AT GENEVA

(FROM A CORRESPONDENT.)

TENDERS for the heating and ventilation, the sanitary equipment and the fitting up of the bookstacks in the buildings now under construction for the League of Nations are at present under consideration. Full specifications have been issued in the ordinary way, on which contractors may base their quotations. There are five architects, who were selected as a result of the international competition held in 1925-26, and open to architects from all States Members. The five architects in charge of the construction are M. H. P. Nenot (French), M. Broggi (Italian), M. Flegenheimer (Swiss), M. Lefevre (French), M. Vago (Hungarian). M. Nenot is nominally in charge.

It is surprising that men of experience should ever have imagined that five architects of different nationalities would be able to co-operate. Inevitably misunderstandings arose. These became so serious this year that a report by the Supervisory Commission to the Council of the League has been circulated. This refers in the following terms to the architectural difficulties which have arisen:—"Both the majority and the minority on the Building Committee, both the higher officials and the technical experts serving upon it, were at one in deploring the errors and delays caused by the division of responsibility among the five architects. The latter had themselves realised the serious practical drawbacks of this lack of single control."

The architects attempted to organise the distribution of work among themselves, but the report states that "this attempt had little practical result. Personal differences became a little less acute, but did not entirely disappear." One architect took the view that the cost of the buildings had been very heavily underestimated. He stated in writing that he was not satisfied with the management of the work. His fears were realised, for the Assembly have since been informed that their estimates may be exceeded by from 7,000,000 to 8,000,000 Swiss francs.

The figures only apply to the buildings erected at the League's expense. These are the Assembly Hall, the Committee Wing, and Secretarial Offices. They do not apply to the Library, the cost of which is covered by the gift of Mr. John Rockefeller, jun.

The financial position became so serious last year that the Commission has modified the plans, reducing the cubic capacity of the Assembly Hall by 25 per cent. and allowing for the use of more artificial stone. In the grounds the monumental terraces, the ornamental water, and the exterior columns are to be entirely given up. Even so, the Building Committee consider that the existing building programme cannot be maintained without a substantial increase in expenditure. They recognise that alterations and improvements constantly suggest themselves in the course of so extensive a construction. Furthermore, the League closed the year 1931 with a deficit in its current expenditure for the first time in its history. The arrears of contributions are increasing, and the only financial reserve is the building fund. From the point of view of British contractors, these questions are for the time solely academic, for the contract for the preliminary drainage was secured by a Swiss firm; that for excavation, foundation, masonry, concrete, and stonework by a group of firms consisting of three Swiss, one French, and one Italian. The subsidiary contracts are yet to be settled.

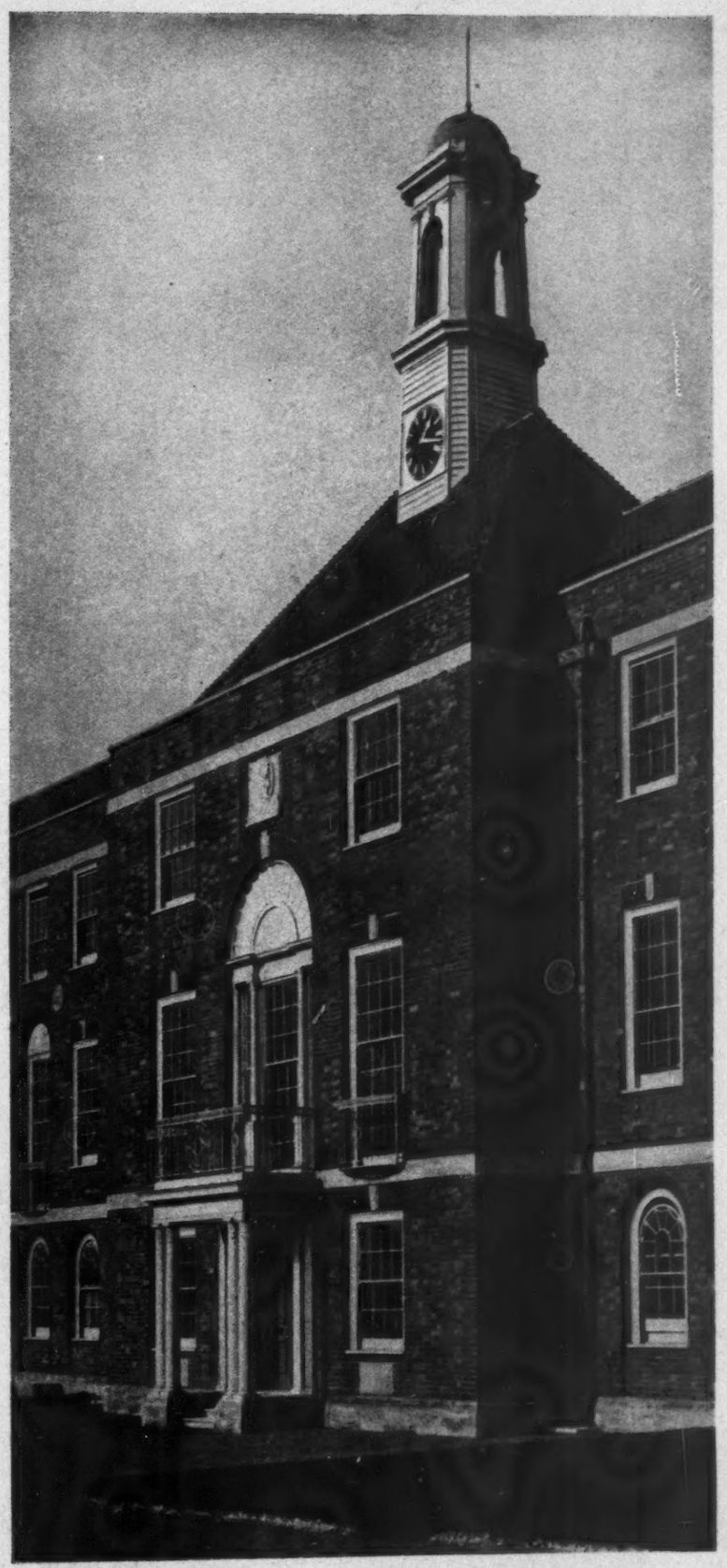
The Building Committee, which supervises the work of construction, consists of two members of the Secretariat, one member of the International Labour Office, and four external members. The present British representative is Mr. J. H. Markham, F.R.I.B.A., of the Office of Works. Sir Hilton Young, the present Minister of Health, in 1927 was the British representative on the Special Committee of five members dealing with the new buildings. Apparently, he overlooked the fact that, owing to the difference in Continental and British labour conditions and prices of materials, it was almost out of the question for a British contractor to compete on a basis of Continental prices. If contracts had been given out on a basis of cost plus a given percentage, there would have been more chance for the British. It is understood, however, that in the case of the further contracts for sanitary installations, lifts, flooring, plastering, painting, interior decoration, joinery and fine woodwork, all firms registered are being invited to tender.

It is only fair to the architects to say that they have fully realised the present difficult situation. They have given an undertaking that, unless circumstances arise over which they have no control, and in order to make it perfectly clear that they are not actuated by motives of self-interest, their fees and office expenses will "in no case be higher for the work described than those specified in their estimate of September, 1931, less the economies submitted and accepted by the Supervisory Commission."

Will British firms secure any of the subsidiary contracts? That question makes the present situation at Geneva of live interest to British contractors.

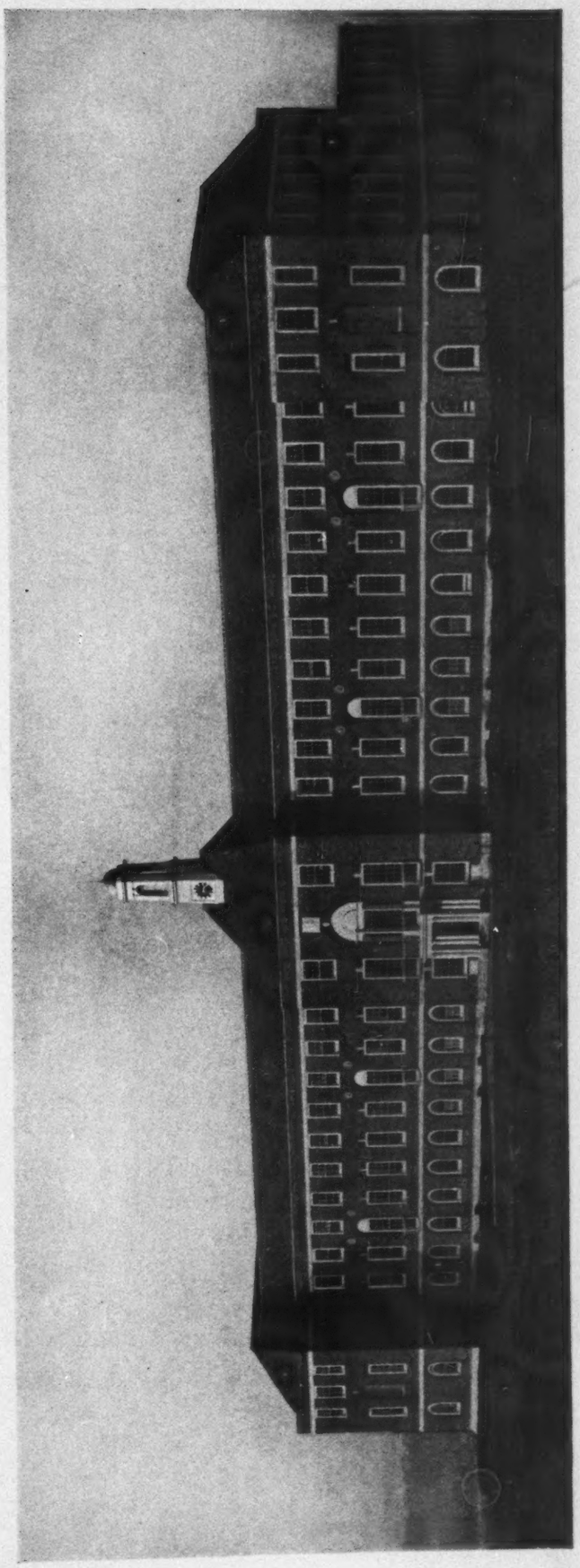
Lincoln Cathedral.

The restoration of Lincoln Cathedral has so far advanced that it is hoped to celebrate its completion at a service in the summer. The flying buttresses of the thirteenth-century Chapter House, which has a central pillar supporting the vaulted roof, were found to have settled, and are being underpinned with reinforced concrete 2½ ft. thick, extending 20 ft. beyond the masonry. The Chapter House itself shows signs of settlement, but it is stated that the trouble is not serious.



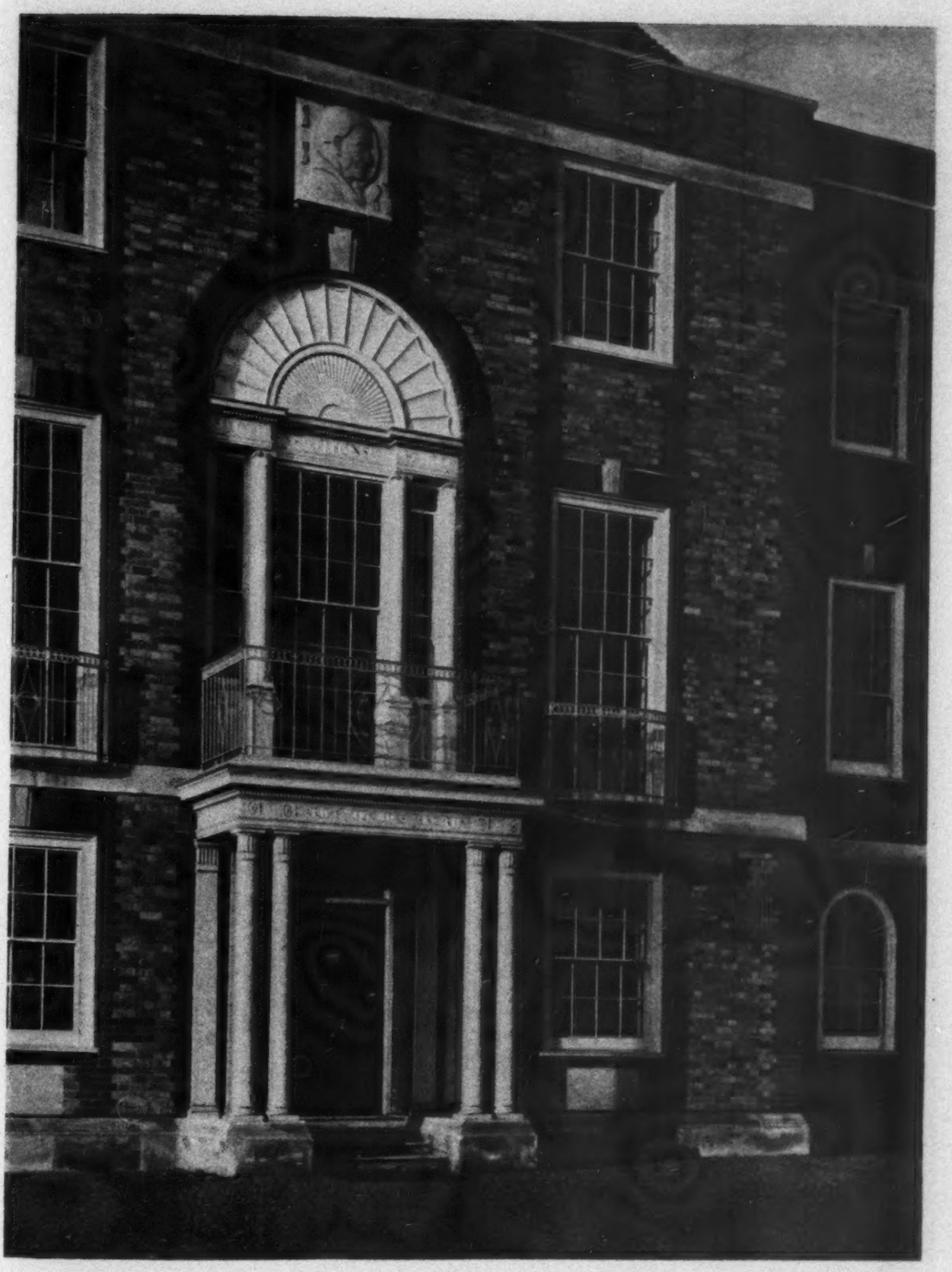
St. Swithun's School, Winchester: Main Entrance.

MESSRS. MITCHELL AND BRIDGWATER, AA.R.I.B.A., Architects.



St. Swithun's School, Winchester: Central Block, from South-east.

MESSRS. MITCHELL AND BRIDGWATER, A.A.R.I.B.A., Architects.

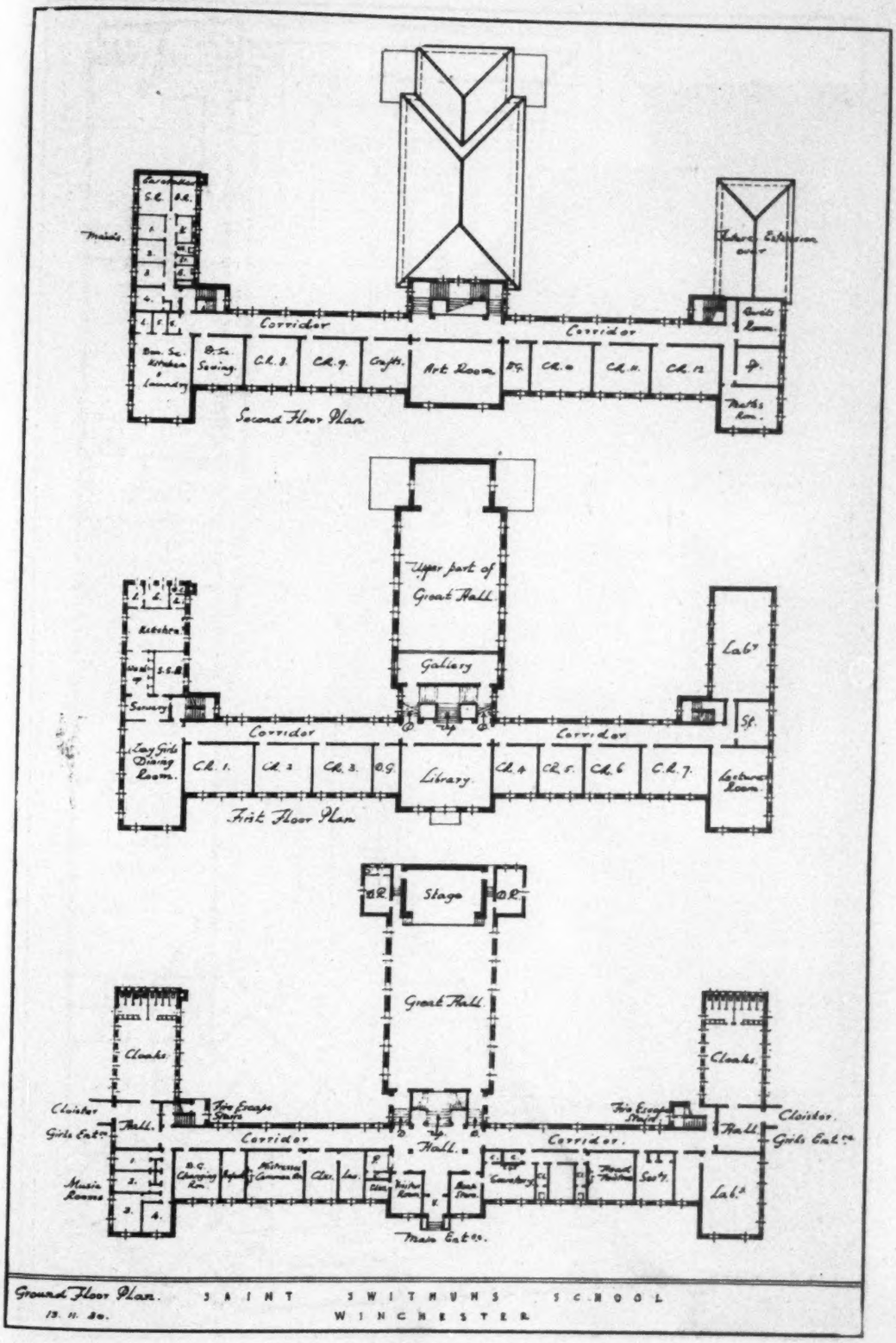


St. Swithun's School, Winchester : Detail of Main Entrance.

MESSRS. MITCHELL AND BRIDGWATER, AA.R.I.B.A., Architects.

St. Swithun's School, Winchester : Main Staircase, showing figure of St. Swithun.

MESSRS. MITCHELL AND BRIDGWATER, AA.R.I.B.A., Architects.



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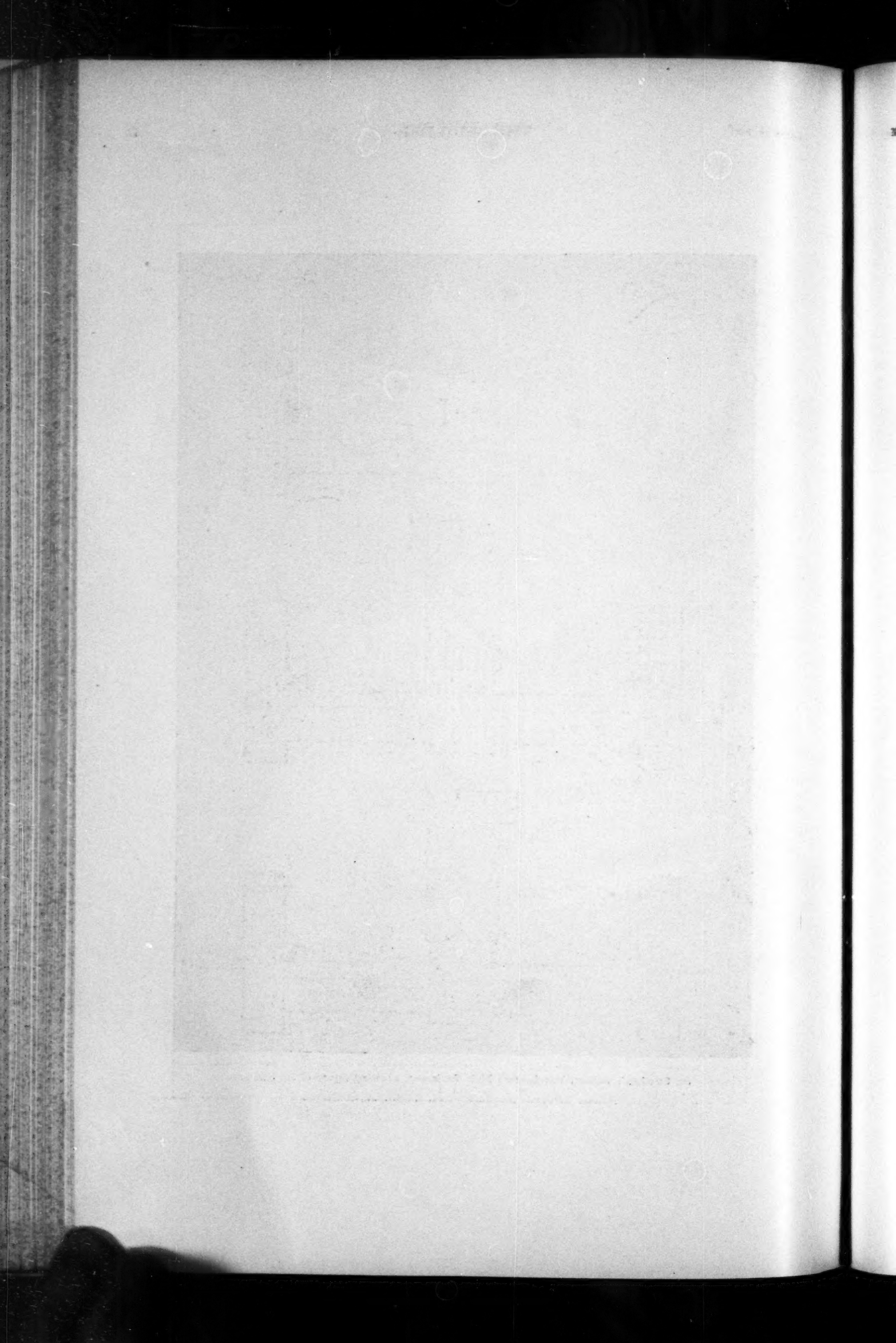

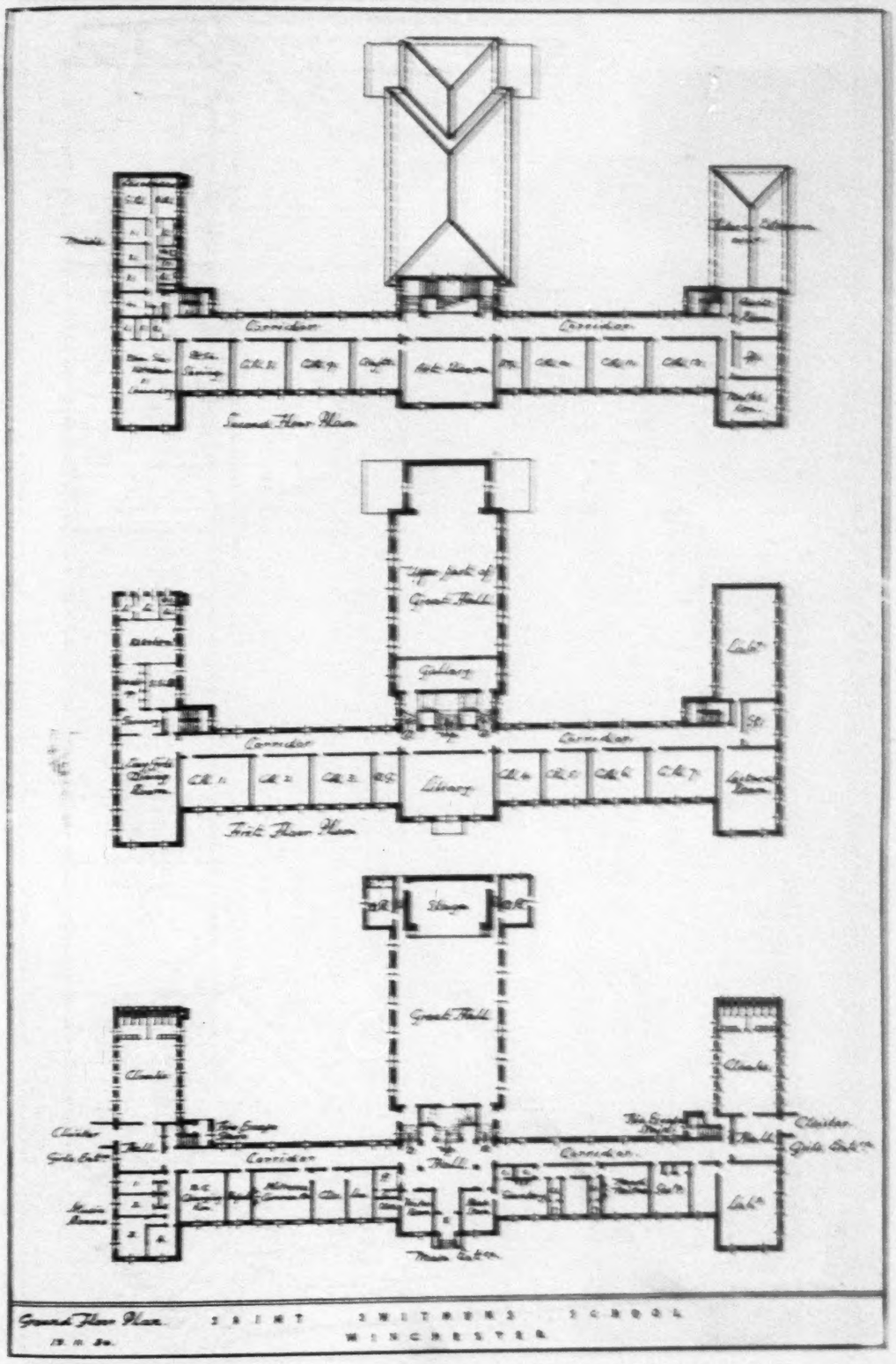

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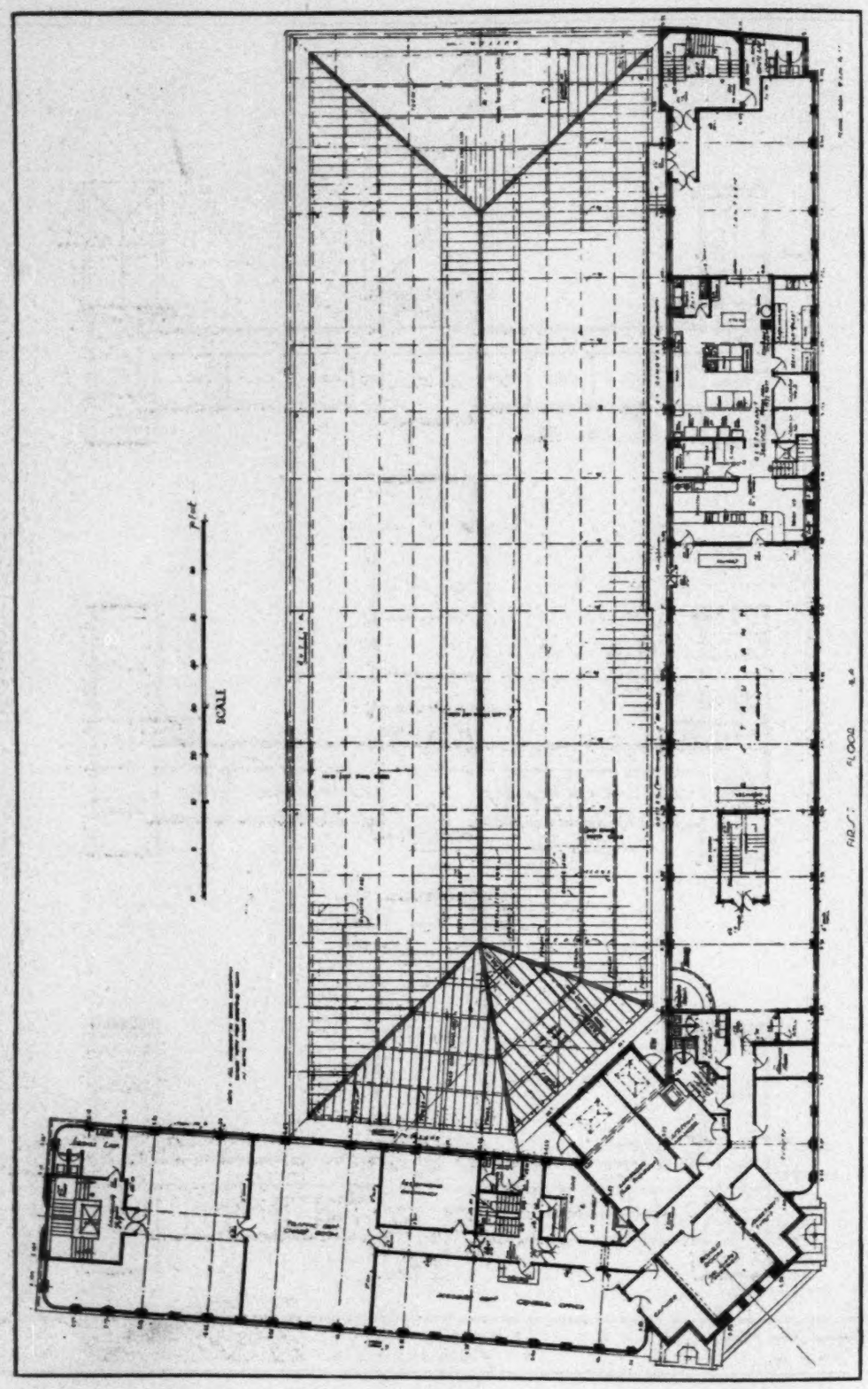
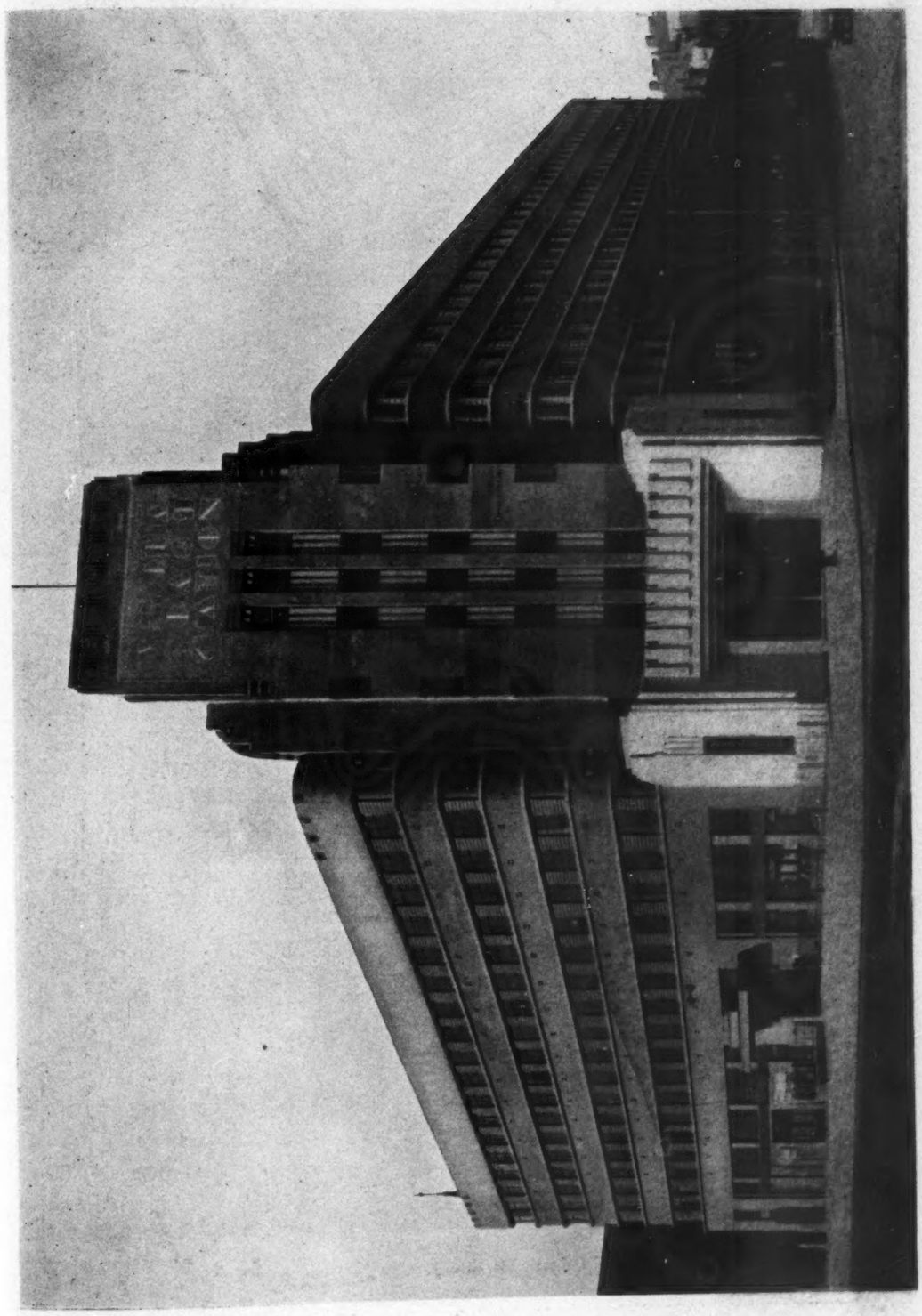


Coach Station and Office Building, Buckingham Palace Road, S.W.

MESSRS. WALLIS, GILBERT AND PARTNERS, Architects.



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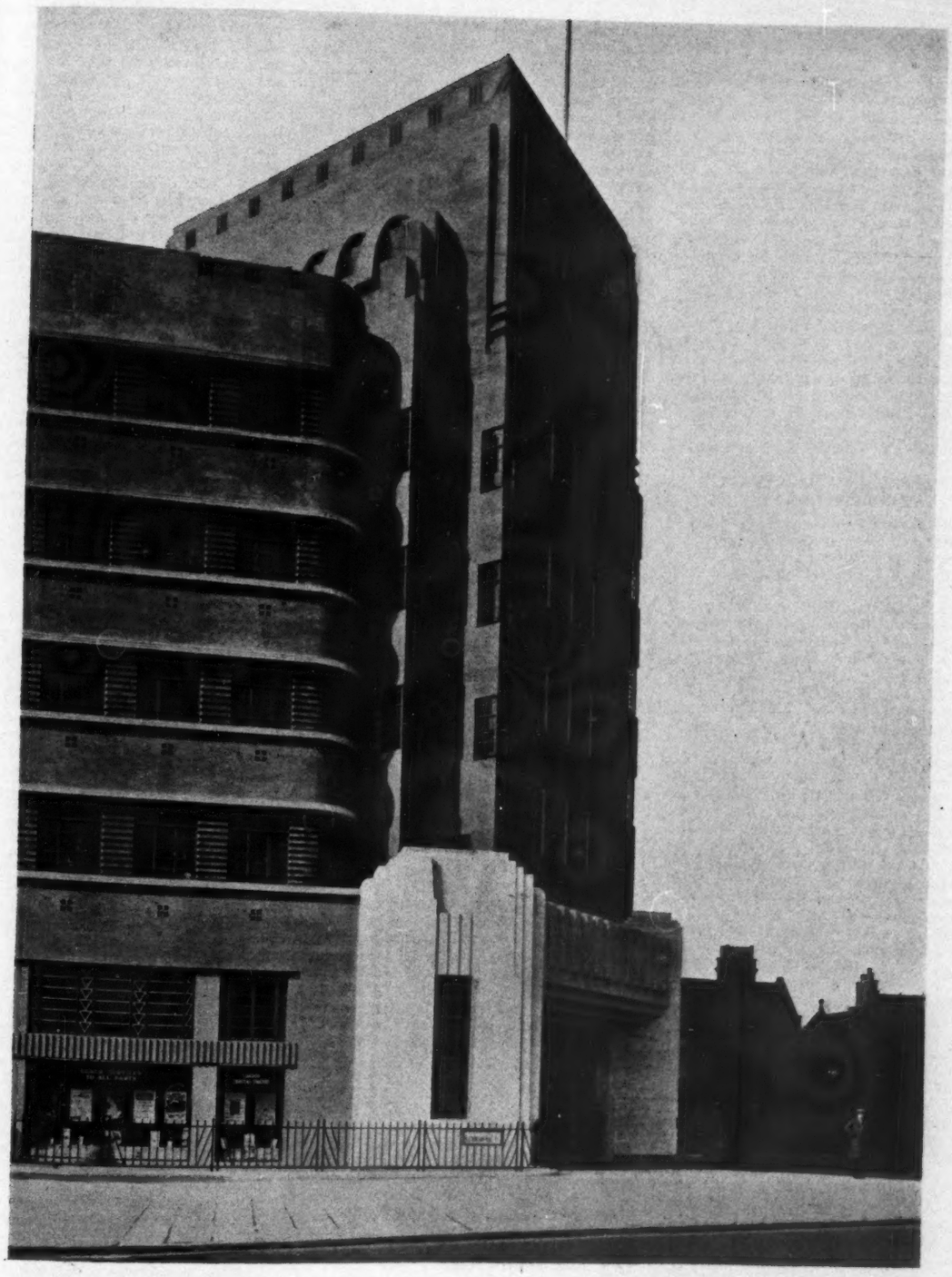

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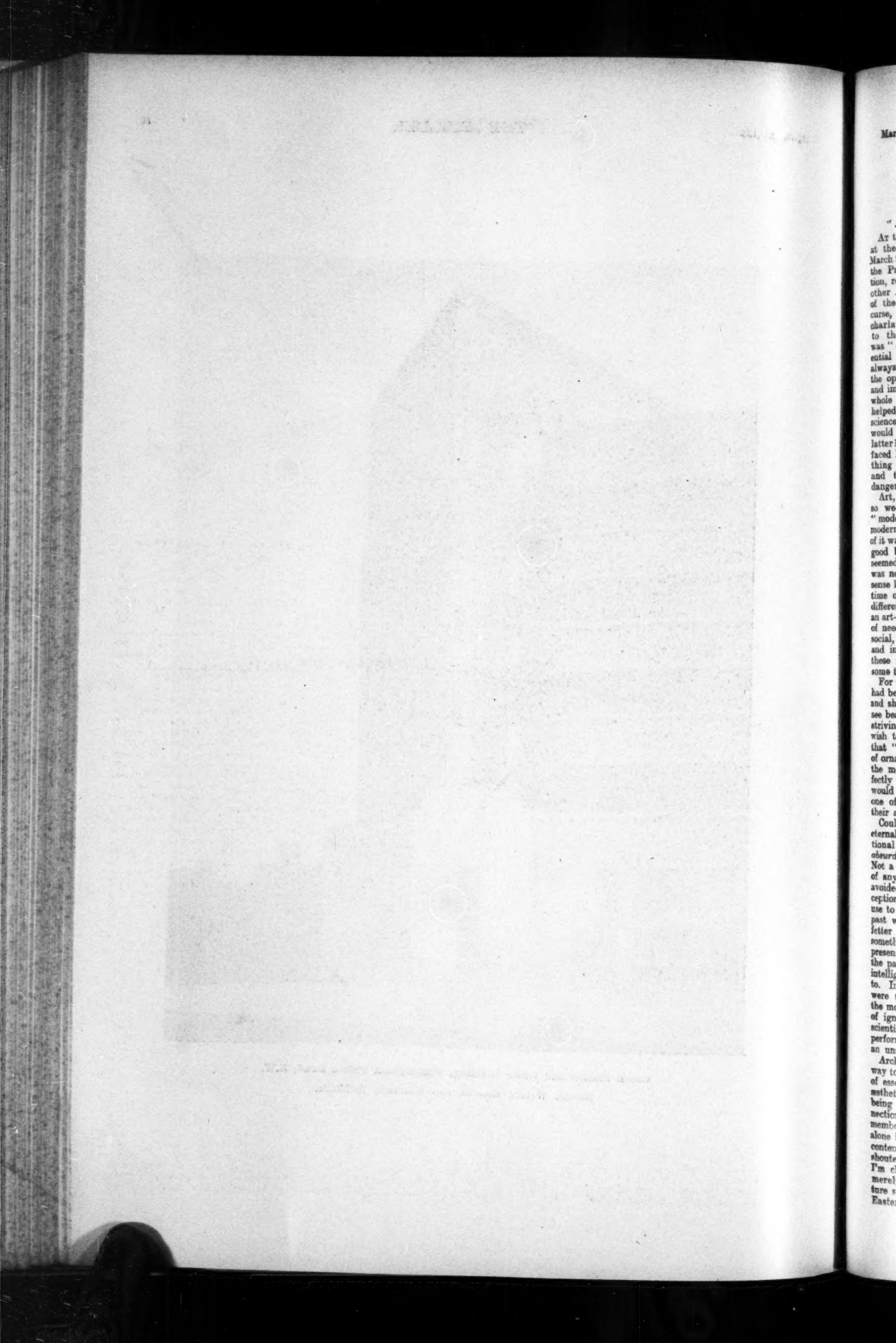


SOCIETIES AND INSTITUTIONS

MANCHESTER SOCIETY OF ARCHITECTS.

"Architecture and the other Arts."

At the last of this winter's sessional papers at the Manchester Society of Architects on March 9, Mr. A. B. Knapp-Fisher, F.R.I.B.A., the President of the Architectural Association, read a paper on "Architecture and the other Arts." He said that the very nature of the subject, at once its blessing and its curse, was fair game for the ignorant, the charlatan, the *poseur*, and the breath of life to the genuine artist. Your ignoramus was "stumped" in a discussion on the differential calculus, but your little upstart was always ready to pit his opinion on art against the opinion of those who with true insight and imagination had thought and studied the whole subject very closely. It could not be helped, because the subject was not one of science, but of sensibility, and who among us would openly confess himself devoid of the latter? In his opinion, the man who prefaced his criticism by "I don't know anything about it, but I know what I like," and then proceeded to criticise was a danger to the public.

Art, unlike science, was like a boomerang, so we must be careful of such labels as "modern." The work of to-day was all modern in a sense, some of it as good, most of it was deplorably bad; one could not make it good by calling it modern, as some people seemed to believe or at least hoped. There was no modern architecture. Art in its full sense knew no age, no era, and recognised no time or label. Architecture, of course, was different from the other arts in that it was an art-cum-science-cum-business—it was an art of needs and means dependent on economic, social, and scientific movements, discoveries, and influences; its necessary dependence on these things, these essentials, was tempting some to-day to divorce it from art altogether.

For some time, chiefly since the War, there had been a desire to get rid of frills, of shams and shibboleths, to be frank in one's work, to see beauty in honest expression of purpose, a striving to get back to first principles, and a wish to put into practice Thompson's dictum that "Loveliness needs not the foreign aid of ornament, but is when unadorned, adorned the most." Assuming that these were perfectly right principles on which to work, it would serve a useful purpose to dispose of one of the chief obstacles which hampered their attainment.

Could we not, once and for all, reduce the eternal controversy of Modern versus Traditional to the level of Euclid's *Quod est absurdum*? The battle of the styles again? Not a bit of it. The classics of architecture, of any art, were not there to be copied or avoided; they were a training ground for perceptions and faculties for which there was a use to be found on a much wider field. The past was and must be a living thing, not a fetter or a weight to original thought, but something to be naturally absorbed in a living present. We could not forget the models of the past, and he would be underrating their intelligence if he suggested that they wanted to. In the works of all great artists there were the foundations of tradition, but like the modern surgeon, we should no more think of ignoring modern scientific discovery or scientific methods than he would think of performing an operation for appendicitis with an unsterilised clasp-knife.

Architecture was not a question of giving way to compromise, but was a synchronisation of essential factors and social, economic and æsthetic considerations, the chief bugbear being so often the æsthetic element, in connection with which it was necessary to remember what Voysey said that "materialism alone is a demon of unrighteousness." To be content with the sort of building which shouted, "I may be stark; but, thank God, I'm clean," was to produce an architecture merely of bones and skin. Let us try to capture something of the mystery and colour of Eastern work, the light-hearted and magical touch of the Baroque, the grace of the Greek, the poise of the Mediæval, the air of the Renaissance and the grandeur of the Romanesque; only thus should we get an architecture which was a synthesis of function and spirit, which presented us with beauty and understanding and gave us inspiration.

Dealing with some of the arts connected with architecture, the lecturer considered sculpture from an analytical point of view. Let us, he said, place a work of art on the cold slab of the dissecting table, and if there were any who would doubt if this were decent or proper or possible he would say "Yes" up to a point, for we must not and could not rely on our emotions alone; although, on the other hand, the practice of the artist's gift was distinctly not to appeal directly, not to influence human beings primarily through their intellect, but so to materialise the perception of beauty that through his interpretation the artist was enabled to arouse right emotions, understanding, and inspiration in his fellow creatures. The sense of beauty being a spiritual and not an intellectual sense, like all spiritual emotions, lost its fervour and meaning if dissected by the machinery of the brain alone.

The aim of the artist was to produce a work of art, to give to the world something it did not already possess, an adding to the world's treasure store. Applying the analysis to the artist's job in life, the artist had to deal with four things—himself, his material, his subject and his object, none of which factors could be eliminated. Visualising the way in which Epstein, Eric Gill or Henry Moore would treat a symbolic figure on a new building and then at the other extreme visualising a real nude woman preserved in oils in such a position, could anything look more incongruous or immodest than the latter, and yet nine people out of ten would say that sculptors must be as near life as possible. There were different schools of thought, but the sculptor had to provide a symbol which, amongst other things, should harmonise, in this particular instance, with its surroundings—which should dot the i's and cross the t's of the architecture of which it was to be part. A sculptor was not a plastic surgeon with superhuman powers, he was a creative artist adding to the world's treasure store. His material must live, but both as material and subject. The balance must be held between self, material and subject; over-emphasis was the fault of to-day. The difference between nature and art was very largely a question of climax and focus. The lecturer showed how the same principles apply to the painter's art. As a guide to sound judgment he suggested that even a Philistine would prefer an ordinary photograph of a landscape to the same photograph coloured, and yet it was further from the representation of the scene than the coloured print, which, he suggested, helped to prove that art was not copying.

A great master did not need to resort to functionalism or tradition; his work would naturally embrace all essentials, leaving out what was non-essential. He would not consciously strive after any particular effect or issue; he would be in tune with values other than material ones, but the great masters were few and far between, and we were swamped by the works of smaller minds and little ability. To sum up the question of modern art, it went almost without saying that what was wanted was a sane and balanced but an adventurous outlook. This did not mean scrapping the past and being self-consciously original at all costs, but getting back to first principles and clear thinking.

WELSH SCHOOL OF ARCHITECTURE.

Visit to National Museum of Wales.

About forty students of the Welsh School of Architecture, the Technical College, Cardiff, accompanied by Mr. Lewis John, M.A., B.Arch., A.R.I.B.A., Mr. A. MacLean, B.A., A.R.I.B.A., and Mr. W. S. Purchon, M.A., A.R.I.B.A., the head of the school, visited the National Museum of Wales on Tuesday afternoon, March 15. The members of the party were first conducted through certain of the principal galleries of the Museum which are already open to the public, admiring in passing the fine collection of Brangwyn drawings recently placed on exhibition. The working drawings of the Museum were then inspected in the excellently designed court room, where the director of the Museum, Dr. Cyril Fox, Ph.D., F.S.A., explained the main objects of the Museum and the leading features of the building, drawing particular attention to the reserve galleries and the accommodation provided for the use of staff and students.

The party then proceeded, with the help of Mr. George Appleby, the clerk of works, to examine the buildings now being erected under the seventh contract by the contractors, Messrs. W. T. Nicholls, Ltd., of Gloucester, from the designs of the architects to the Museum, Messrs. Smith & Brewer. This contract includes a particularly interesting lecture theatre, two fine galleries, each about 30 ft. by 130 ft., and very extensive reserve galleries with accommodation for staff, etc. Many interesting points in design and construction, including the acoustic treatment of the lecture theatre, the ventilating system, and the special panel system of heating were explained to the students, who on the proposal of Mr. W. S. Purchon, passed hearty votes of thanks to the director of the Museum and to Mr. George Appleby.

BIRMINGHAM ARCHITECTURAL ASSOCIATION.

The seventh general meeting of this Association was held recently at the Association's rooms, in the Royal Society of Artists' Building, when the President, Mr. J. B. Surman, F.R.I.B.A., was in the chair. Mr. John Swarbrick, F.R.I.B.A., described the modern photogrammetrical methods of assessing compensation in easement of light cases. He called attention to the early work of Professor Robert Kerr, in 1865, in preparing sky projections upon which he plotted the extent of the obstructions under both the original and ultimate conditions, and called attention to the fact that plans of lighting conditions were not prepared until the time of Henri Marechal, who, in 1894, published plans illustrating artificial lighting conditions by means of contour lines, in a book entitled "L'Eclairage à Paris." The use of daylight factors was first suggested by Mr. Alexander P. Trotter, the late electrical adviser to the Board of Trade, who found that internal lighting conditions could only be properly expressed as percentages of the external illumination, owing to the constant changes of lighting conditions that take place throughout the day. After describing the use of the rectangular and radial calculating sheets now used in right of light cases, the lecturer referred to the limit of inadequacy adopted in legal cases, and compared that with the minimum light permissible in schools. Particulars were also given regarding the variations in illumination, received both from the entire hemisphere of the sky on sunless days, and from the sun itself at various times of the year. The lecturer finally described the photo-theodolite, which he devised for dealing with easement of light cases.

Explanations were given regarding the two types of grilles that may be placed over the photographs, for the purpose of obtaining the data required. In addition to the ordinary co-ordinate grilles, representing angles of azimuth and altitude, attention was also called to the daylight factor grilles, which can be printed over photographs, and on which each space represents an equal unit of illumination, on either the horizontal or vertical plane, as the case may be. Grilles were exhibited for measuring light on both horizontal and vertical planes, in which the unit adopted was .0025 per cent. daylight factor. It was pointed out that, if daylight factor grilles were used, it was not necessary to calculate the data on calculating sheets, as hitherto. In such cases it was only necessary to count up the number of units in the unobstructed area of the sky.

When this number had been definitely ascertained, the result had only to be multiplied by .005 per cent., in order to ascertain the sill ratio. The fact that photographs that were indisputably accurate could be produced in court with a grille superimposed, that would enable either counsel or the judge to calculate immediately the exact amount of light received from the sky, was obviously a remarkable advance upon the old method, which necessitated the use of calculating sheets and technical procedure that was often difficult for the court to follow. A photograph obviously could not misrepresent the facts, and the application of standard grilles was essentially a purely automatic operation that was equally favourable to all parties concerned. It was pointed out, in addition, that it is possible to print upon the photo-theodolite photographs lines representing the apparent solar paths at various times of the year and also the hours of the day. This, in itself, said the lecturer, was a considerable achievement, as the old geometrical method of indicating the solar paths for various aspects was an exceedingly tedious operation. Attention was called to the fact that it is now quite possible, when an injunction is not desired, to obtain all the data required by means of photogrammetrical records, obtained automatically by use of the photo-theodolite. Photographs of this kind could be taken before the original buildings constituting the servient tenement had been abolished, and, again, after the new building had been erected on the site of the original servient tenement. By means of these photographs it was possible to plot upon the floor of rooms the exact percentages of light enjoyed under both the original and ultimate conditions, and to prove that the data was correct by merely producing photographs, the accuracy of which could not be disputed.

A vote of thanks to the lecturer was proposed by Mr. Albert T. Butler, F.R.I.B.A., and seconded by Mr. S. J. Stainton, F.R.I.B.A.

SOUTH YORKSHIRE ARCHITECTS.

The Modern Flat.

Mr. G. Grey Wornum, F.R.I.B.A., gave, on March 10, before the Sheffield, South Yorkshire and District Society of Architects and Surveyors, a lecture on "The Modern Flat."

The lecturer commenced by pointing out the practical reasons for the encouragement and study of flats. The reasons, he said, went beyond economy on account of increasing land values. There were strong practical and æsthetic reasons. The first slides shown were of the Tabard Garden Estate of the L.C.C. near London Bridge before the site was cleared in 1917. This site showed a density of two and three-story houses of 80 to the acre. Sixty houses to the acre brought those buildings twelve feet apart, and in the rebuilding scheme now completed there was a density of about 60 flats to the acre, 17½ acres in all, and yet five acres had been left free for recreation purposes by the new arrangement. Æsthetic reasons were shown by some slides of German lay-outs where some 12 houses to the acre were allowed for, but where extra open space and considerable interest in planning was made possible by including some three-story flats among the houses. The lecturer pointed out that the design of working-class flats had its real birth in this country somewhere about the 'eighties, and the 'nineties saw the forerunner of the best examples in this country to-day. It was hardly necessary to remind any audience that the nursery for this child was the L.C.C. Every civilised country to-day had taken advantage of studying that Council's work. If England had at the moment lost the lead in the public eye, it was due to her stricter by-laws, her lack of money to spend on site work and social amenities, and on account of climatic conditions affecting both construction and the manner of living.

The birth of the plan of the modern tenement building commenced at about 1892, when four-story buildings with two flats a floor, off each staircase, was the accepted system. At the present day in England the outside approach balcony was mainly used, and buildings without lifts were run up five floors high, the two top floors being coupled together as two-story flats. On the laundry question the lecturer emphasised how extremely undesirable it was to have wet washing drying in living rooms. The "roof" laundry drying-room was at present the accepted solution. The disposal of refuse was another matter that required careful planning. On the question of aspect, in many cases of site planning it was preferable to place all the balcony approach fronts, with their kitchens and bathrooms, facing each other in order to have a better prospect for living room and bedroom windows. In showing the so-called "Viennese" flats at Ossulston-street, erected by the L.C.C., emphasis was laid on the constant advantage taken by tenants to use the balcony approaches for their children and for sitting out.

The lecturer then dealt at some length with the recent Viennese housing blocks, their plans, lay-out and equipment. He explained, among other things, that a generation ago these people were living in houses with earth floors, and that the standard of living in Vienna to-day among the working classes was a good deal lower than in this country; many of the detail plans were little removed from ours of thirty years ago. But the coat had had to be cut according to the cloth, and no such fine effort could have reached the success it had if the standard used had not been adopted. The atmosphere of beauty and the social amenities provided were something, however, we should all study and had aroused admiration throughout the whole world. It was recalled that of every 1,000 flats in Vienna before the War, 953 had no water supply and 921 no water-closet on the premises at all, so that the present development was a very marked progress both practically as well as socially.

The energy shown by the Germans in experimenting was commented on by the lecturer. The Germans, he said, were as a nation far more communal than we were, and most of the laundry and bathing facilities for the housing blocks were centrally placed. In addition, the closed stove, rather than the open fire, was used for heating, and that, while saving fuel, made less burden of smoke on the atmosphere and so made the enjoyment of flat roofs more possible.

THE SOUTH WALES INSTITUTE OF ARCHITECTS—CARDIFF (CENTRAL) BRANCH.

The annual general meeting of the South Wales Institute of Architects (Central Branch) was held at Cardiff on March 10. The hon. treasurer's report and balance-sheet showing the healthy financial condition of the branch were read and confirmed.

The hon. secretary's report was read and confirmed. It showed that a useful year's work had been carried through, that the lecture programme had been particularly successful, and that the exhibitions of R.I.B.A. prize drawings, etc., had been well attended. The report also showed that the School of Architecture Club is now in a very healthy condition and is doing very valuable work for the younger members. Its activities included a particularly successful visit to London, during which members were the guests of the Architectural Association, and a visit from the staff and students of the Bristol School.

Mr. Percy Thomas, O.B.E., F.R.I.B.A. (of Messrs. Ivor Jones & Percy Thomas, Cardiff), was congratulated on the award of the R.I.B.A. South Wales Architecture Medal for his building in St. Mary-street for Messrs. James Howell & Co., Ltd.

The following officers and members of the executive committee were elected for the coming session :—

Chairman : Mr. Percy Thomas, O.B.E., F.R.I.B.A.

Hon. treasurer : Mr. H. Teather, F.R.I.B.A.

Hon. secretary : Mr. W. S. Purchon, M.A., A.R.I.B.A.

Executive committee : Mr. H. Norman Edwards, Mr. Ivor Jones, A.R.I.B.A., Mr. Edgar Smith, Mr. T. Alwyn Lloyd, F.R.I.B.A., Mr. Gordon Griffiths. Representatives of Associates and Students : Mr. A. J. Hayes, Mr. F. G. Allen.

The following were elected as members of the Council of the South Wales Institute of Architects :—

Messrs. Percy Thomas, F.R.I.B.A., H. Norman Edwards, Edgar Smith, J. A. Hallam, Gordon Griffiths, C. F. Jones, A.R.I.B.A., Lewis John, M.A., B.Arch., A.R.I.B.A., H. W. Fletcher, A. G. Lynham, F.R.I.B.A., and J. Llewellin Smith, L.R.I.B.A. Representatives of Associates and Students : Messrs. F. G. Allen, A. J. Hayes, T. Hill.

NORFOLK AND NORWICH ARCHITECTS.

The Year Book of the Norfolk and Norwich Association of Architects is a lively and well-produced little book which contains much information upon the activities of this Society. Upon June 1 the Association will be twelve years old, and the original roll of eleven members has grown to 86. This year's President is Mr. E. H. Buckingham, F.R.I.B.A., and the hon. secretary is Mr. E. W. B. Scott, F.R.I.B.A.

AUCTIONEERS' AND ESTATE AGENTS' INSTITUTE.

The Pass List at the Preliminary Examination on January 20 and 21 last of the Auctioneers' and Estate Agents' Institute of the United Kingdom is now issued from 29, Lincoln's Inn-fields, London, W.C.2. 381 candidates sat for the examination, of whom 213 were successful—Mr. Eric J. Bennett, Smethwick, Staffs, being placed first in order of merit, thereby gaining the Institute Prize of five guineas in the form of text-books for the Professional Examinations.

INCORPORATED CHURCH BUILDING SOCIETY.

At the meeting of this Society, held at 7, Queen Anne's-gate, Westminster, recently, Sir Cecil Harcourt-Smith, C.V.O., LL.D., in the chair, grants were made towards building new churches at :—Brecon, St. David, £275; Burnage, St. Nicholas, £275; Golders Green, St. Alban, £200; Prestwich, St. Gabriel, £150.

Towards repairing the churches at :—Althorpe, St. Oswald, £75; Capel Bangor, St. David, £50; Ditcheat, St. Mary Magdalene, £30; Durham, St. Oswald, £50; Llanllwni, St. Luke, £25; Trefeglwys, St. Michael, £40.

Grants were also paid for works completed at :—Aldingham, St. Cuthbert, £50; Battersea, St. Stephen, £40; Dagenham, St. Martin, £400; Lymington, St. Thomas, £50; Menheniot, St. Antoninus, £25; Mill Hill, St. Michael, £85; Pixmore, St. Paul, £50; Shedfield, St. John-the-Baptist, £20; Snarford, St. Lawrence, £30; Streatham Vale, The Holy Redeemer, £200; Vange Mission Church, £50; Woolbrook, St. Francis, £100; York, All Saints, £50.

In addition to the above, the sum of £504 was paid towards the repair of 24 churches from Trust Funds held by the Society.

R.I.B.A. : District Surveyor and Building Surveyor Examinations.

The R.I.B.A. statutory examination for the office of District Surveyor under the London Building Act, and the examination for the office of Building Surveyor under Local Authorities, will be held at the R.I.B.A., London, on May 4, 5 and 6. The closing date for receiving applications for admission to the examinations, accompanied by the fee of £3 3s., is April 13. Full particulars of the examinations and application forms can be obtained from the Secretary, R.I.B.A.

LEGAL SECTION

NOTES ON CURRENT CASES

ASSESSMENTS FOR INCOME TAX OF TENEMENT FLATS IN THE METROPOLIS.

In our issue for May 30, 1930, we noted the decision of a Court of first instance in the case of Towle (Inspector of Taxes) *v.* Improved Industrial Dwellings Company, relating to the assessment for Income Tax of self-contained flats in the Metropolis, but explained that, owing to the brief reports then available, the subject could not be dealt with in any detail, and pointed out that no report at all was then available of a second case, heard at the same time, Johnstone (Inspector of Taxes) *v.* Consolidated London Properties, Ltd. Since that date both the above cases have been carried to the Court of Appeal, and are now reported in the "Law Reports," 1931, 1 K.B., 263, and quite recently the second of the two cases has been heard in the House of Lords (*Weekly Notes*, February 6, 1932), and in the light of these subsequent decisions the whole subject, which is of considerable complexity, requires to be reviewed.

In Towle's case there were blocks of self-contained tenement flats, each block comprising some eight flats, and under the Valuation (Metropolis) Act, 1869, in the valuation list made in 1925, each flat had been separately assessed as a several hereditament for rating purposes, and in the absence of structural alterations, they were not liable to be so re-assessed until the year 1930.

For the purposes, however, of Income Tax for the year ending April 5, 1927, an assessment had been made on a new basis on the buildings as blocks, the assessment being arrived at by adding together the gross values shown in the valuation list of the separate flats in each block, so that, although no alteration had been made in the assessment of each flat, yet the unit was different, with the result that the allowances which could be claimed were reduced. This assessment had been made under the Income Tax Act, 1918, Schedule A, No. VII, Rule 8 (*c*), which provides that "The assessment and charge shall be made upon the landlord in respect of any house or building let in different apartments or tenements and occupied by two or more persons severally. Any such house or building shall be assessed and charged as one entire house or tenement."

From this assessment the landlords appealed to the Commissioners, the main contention being that by Section 45 of the Valuation (Metropolis) Act, 1869, the valuation is made conclusive for the purposes of Income Tax, and by the First Schedule A of the Income Tax Act, 1918, it was especially provided: "Nothing in these rules shall affect the valuation of land, tenements or hereditaments within the Administrative County of London, with respect to which the valuation list under the Valuation (Metropolis) Act, 1869, is by that Act made conclusive for the purposes of Income Tax," and by which certain rules are particularised as not applying in the County of London (of which Rule 8 is not one), "or any other rule which relates to the ascertainment of the value of such lands, tenements or hereditaments."

The Commissioners held that (*a*) the valuation list was conclusive, and that the rule in question was excluded from operation, but (*b*) that if, in the opinion of the High Court they were wrong in these findings, then under Rule 8 (*c*) the flats should be assessed as blocks. The Crown appealed from the first determination and the company from the second, and the Court below and the Court of Appeal affirmed the second finding that Rule 8 (*c*) was not excluded, as relating to the "ascertainment of value," but only dealt with the incidence of the charge when ascertained, and that the valuation should be made on the blocks. It was also held on a second point that these blocks of flats with a common doorway and a common staircase came within the rule as one entire house or tenement, on the authority of Attorney-General *v.* Mutual Tontine Westminster Chambers Association (1876, 1 Ex. Div. 469). There was no further appeal in this case; but the second case raised different considerations, though involving some of the same points, and this has been the subject of appeal to the House of Lords.

In this case, Johnstone *v.* Consolidated London Properties, there was a building in Lindengardens containing eight self-contained flats with a common entrance and stairway. Each flat was let on the terms that the landlords were to pay the rates and the cost of lighting the common entrance and stairway. In the valuation list in force during the year ending April 5, 1927, the gross value of each flat was shown separately, and the assessments were for the same amounts as the respective gross values appearing in the valuation list. Before the Commissioners, the landlords had contended: (1) That the assessments in question were conclusive under the Valuation (Metropolis) Act, 1869, of the gross values, and, therefore, of the annual values for the purposes of Income Tax, and that the actual outgoings during the three years ending April 5, 1927, were irrelevant; and (2) that under the First Schedule A, No. V, Rule 7, of the Income Tax Act, 1918, as amended by Section 28 of the Finance Act, 1923, the appellants were entitled to the appropriate allowances as set out in paragraph (3) of that rule. The Crown, however, raised the same contention as in Towle's case, that under the Income Tax Act, 1918, Schedule A, No. VII, Rule 8 (*c*), the whole house was the unit of assessment and assessable in one sum, namely, the gross value of the eight flats, and that, in any event, having regard to paragraph (2) of the above rule, there was no title to the reductions claimed. The Commissioners had held that the income tax assessments should follow the assessments as fixed under the Valuation Act, 1869, and therefrom the appropriate reductions in accordance with the scale in paragraph (3) of Part V, Rule 7, should be allowed. Both in the Court below and in the Court of Appeal the contention of the Crown was accepted that the assessment should have been made on the whole building, and the case was remitted to the Commissioners, with a direction to discharge the existing separate assessments, that is to say, the Courts treated this case on the same basis as Towle's case. When this case came before the House of Lords, however, that House found the contention of the Crown, that the entire house should be assessed as one unit, not competent to be raised in this appeal, as the valuation list in force at the time of appeal contained no valuation of the house as one unit, and, if such contention could be raised at all by the Crown before the Commissioners, it could only be raised by an independent appeal; but in these proceedings it raised altogether new matter, and there was no provision in the Act for an appeal by the Crown; the assessment, before it came before the Commissioners, had been examined and passed by the surveyor and adopted by him on behalf of the Crown (Income Tax Act, 1918, Sections 119 and 120); hence, provision was made by Section 136 for an appeal by the taxpayer only, and the position of the surveyor was defined by Section 137 (2) (*a*), (*b*) and (*c*). The only matter before the Commissioners and before the Court was the appeal by the present appellants, the landlords; and the Courts below had, in discharging the assessments and directing the assessments to be made on the whole building, acted without jurisdiction, and the order made by the Court below and affirmed by the Court of Appeal must be discharged.

But the House of Lords then had to consider whether the Commissioners had dealt correctly with the matter properly before the Court as to the allowances to be made. The Commissioners had granted allowances in accordance with the scale allowed in Rule 7, paragraph (3), or, as is stated in the judgment in the House, they had held that in this case paragraph (2) did not exclude the operation of paragraph (3). Rule 7 in the First Schedule A, No. V, as amended by Section 28 of the Finance Act, 1923, so far as is material, is as follows:—Paragraph (1): Where tax is charged upon annual value estimated otherwise than by relation to profits, the following provisions shall have effect: (*b*) In the case of an assessment upon any house or building (except a farmhouse or building included with lands in assessment), the amount of the assessment shall for the purposes of collection be reduced (i) where the owner is occupier or chargeable as landlord . . . by a sum equal to the amount of the reduction hereinafter mentioned (that is, in paragraph (3)). Paragraph (2) is, then, as follows: "Where the amount of the assessment in the case . . . of any house or building (excepting farmhouses, etc., as above) is less than the rent by a sum greater than the authorised reduction which would be allowable if the assessment were on the amount of the rent after deducting from such rent any outgoing which should by law be deducted in making the assessment, this rule shall not apply."

It is not surprising that Lord Warrington of Clyffe, who delivered the only judgment yet reported in the House of Lords, pronounced this rule to be by no means easy of interpretation, but he explained it as follows:—From the point of view of the revenue, its object was to compare the net income derived from the house (that is, the actual rent less any outgoings which by law should be deducted in making the assessment) with the annual value forming the basis of the assessment, and if the net income exceeded the annual value by a sum greater than the authorised reduction which would have been allowable had the assessment been on such net income, then to regard the taxpayer as thus having received an equivalent of the authorised reduction, and, therefore, not to be entitled to any further allowance. He then said that it followed from this interpretation that, as the net income varied from year to year, the outgoings must be ascertained in each year of assessment, and, as in this case the flats were separately assessed, the inquiry as to outgoings must be made as to each flat separately. The case was remitted to the Commissioners to make the assessment on this basis. There being no full report in the "Law Reports" yet as to the proceedings in the House of Lords, the matter is not so clear as might be wished, but we have received valuable assistance from the report in *The Times*, January 30.

There was no appeal from the decision of the Court of Appeal in Towle's case that under Rule 8 (*c*) of No. VII of the First Schedule A of the Income Tax Act, 1918, the assessment could be made on the block as a whole, so at present that stands as law. In Johnstone's case, as regards this point, the Court of Appeal treated the two cases on the same basis, and this decision, as we have shown, was set aside in the House of Lords but only on the ground of want of jurisdiction, the House expressly refraining from expressing any opinion on that point until it came properly before them. It may, therefore, be asked: What is the position as to reductions where the assessment has been made on the block? The Court of Appeal dealt with Johnstone's case on the basis that the assessment should be made on the entire

house as a block, the majority of the Court holding that the annual value of each group of flats was the sum of the gross values of the individual tenements as appearing in the valuation list, but Lord Justice Romer differed, as he considered that the annual value should be ascertained under the Income Tax Act, 1918, which, he said, would make no difference as to the claims for voids, although it might confer some advantage in respect of allowances, but the whole Court was unanimous in holding that Rule 7 would apply.

The contention of the Crown in that case was also that, whether the flats were assessed separately or by the block, yet in either case, Rule 7 (2) applied to the facts of that case. Thus it appears fairly clear that, whether the valuation is made separately or in blocks, Rule 7 applies, and unless the net income exceeds the annual value by a sum greater than the reductions that would be allowed had the assessment been made on net income, the deductions prescribed in Rule (1) (*b*) will be allowed as provided in paragraph (3), but that, where the income so exceeds the annual value, then paragraph (2) applies.

The question whether the valuation should be made on the blocks, in spite of Section 45 of the Valuation (Metropolis) Act, 1869, remains open for decision by the House of Lords, and this has a bearing on the amount of the reductions which can be claimed. The scale of reductions is now contained in Section 28 of the Finance Act, 1923, and the scale diminishes as the assessment increases. Where the flats are assessed at less than £40, the assessment, if made on the block, would make a considerable diminution in the amount of the reduction which can be claimed, lessening as the flats rise in value.

LAW REPORT

KING'S BENCH DIVISION.

Before MR. JUSTICE TALBOT.

EXTRAS ON A CONTRACT.

Frome R.D.C. *v.* Coles Bros., Ltd.

A DISPUTE between the Frome Rural District Council and Coles Bros., Ltd., builders, of Bath, in respect of the payment of extras on contracts for the building of 96 cottages, came before Mr. Justice Talbot in the King's Bench Division on February 8.

It was an application by the Frome R.D.C. to set aside an award made by Mr. W. E. Underwood, surveyor, of Bath, who had been appointed arbitrator to settle disputes which had arisen between Coles Bros. and the Frome R.D.C. in regard to three contracts for the erection of 96 houses in the rural area.

Mr. Underwood, in his award, had found that there was due to the builders £3,758 15s. 8d. in respect of extra work.

Counsel (Sir Stafford Cripps), on behalf of the Frome R.D.C., contended that the contractors were not entitled to any payment for extras in respect of which no order in writing had been given by the architect, and further, they were not entitled to payment for extras in respect of which no notice in writing had been given by the contractors before proceeding with the work as required by the terms of the contract. Further, counsel contended that the architect, by his appointment, had no power to enter into an agreement with the contractors that the question of extras would be dealt with in the final account, which agreement, the arbitrator had found as a fact, had been entered into between the architect and the contractors. The arbitrator in his award found as a fact that the architect and the contractors had generally ignored the terms of the contract so far as variations were concerned, and that neither of them had given the notices in writing as required by the contracts. The arbitrator also found that all the variations allowed by him in his award as additions involved extra cost to the contractors beyond that indicated by the plans and specifications, and were improvements increasing the value of the houses, and so far as they were work substituted for work indicated, he had, in calculating the allowances, deducted the cost of the omitted work. He found also as a fact that the extras and additions had been ordered verbally by the architect, and that the contractors verbally from time to time drew the attention of the architect to the fact that there were extras, and were assured by the architect that all such items would be adjusted and settled in the final account, and that, relying on such assurance, the contractors omitted to give written notice as provided by the terms of the contract.

Mr. Du Parcq, on behalf of the contractors, argued that there was no clause in the contract which provided that the contractors should not be paid for extra work if they failed to comply with the terms of the contract provided for giving written notice of their claim before the work was proceeded with, and that such clauses in the contract were only directory and were for the information of the architect that extras were being incurred, which the architect well knew of, as he had verbally given instructions for the work to be done and had agreed that the value would be adjusted in the final accounts. He also argued that the contractors were, by the terms of the contract, obliged to carry out the instructions of the architect, and would have given the necessary notices under the terms of the contract if they had not been assured by the architect that their claim would be dealt with by him in the final account. He further contended that the architect in this case, acting for a council, was the agent of the council and was entrusted with doing everything necessary for the execution of the work.

During the hearing of the case a rather unusual incident happened, Sir Stafford Cripps asking leave to read a case which was reported only in *The Builder*. His Lordship allowed Sir Stafford to do so. The case referred to decided that where the contract provided for extras to be ordered in writing by the architect and signed on behalf of the building owners, the contractors could not succeed unless that condition had been complied with.

Mr. Du Parcq did not raise any serious objection to the case being cited, but pointed out the distinction in that case and in the present case, which was that the order in writing in this case only had to be given by the architect and that he had power to vary that clause by giving the order verbally and agreeing that the matter should be dealt with when the final account was made up.

Mr. Justice Talbot, at the end of the legal arguments, reserved his judgment.

TOWN PLANNING INSTITUTE

OLD MAPS.

DR. R. C. MAXWELL, the President, took the chair at a meeting of this Institute held on March 11, at Caxton Hall, Westminster, when Mr. W. A. Cadbury gave a talk on "Old Maps." He exhibited a large number of lantern slides, and the lecture took the form of a running commentary on the different slides as they were thrown on the screen. The lecturer said that the history of early map-making divided itself into three main headings. First, the ancient Greeks, many years B.C., knew that the world was round, and they put down the land and seas known to them extending from India to the Western shores of Europe. Their work was copied into the first printed publications of Europe and any additional geographical knowledge was recorded, until the days of the great Portuguese and Spanish discoveries of the 15th century. The second group was the Monastic era of map-making dating back to the 10th century A.D. It had an extraordinary vogue throughout the monasteries and the educational centres of Europe. This school derided the knowledge of the Greeks and founded the theory of a flat world, surrounded by water. They looked on the idea of the Antipodes as heresy. The most important English example of this school was the great map in Hereford Cathedral. The third group of cartographers were the makers of the sailors' charts, which set out very carefully the seas of the Mediterranean. These charts existed as early at 1300 B.C. Map-making in some form or another belonged to the very earliest days. In the British Museum there were clay tablets with elementary maps at least 2000 B.C. When printing came in in the days of Henry VII. and the world wanted an atlas they took the original manuscripts of Ptolemy and made the first printed atlas, for during the intervening period there had been practically no new discoveries, and the known world was exactly the same as at the time of Christ. The first of these atlases was printed in 1478 in Italy, and there were seven edition before 1500, five of which were printed in Italy. Down to the year 1600 there were 80 more editions printed in Germany, Italy and France. The first atlas printed in England was in 1579.

The Ortelius atlas was the first really modern atlas. Abraham Ortelius was a German born in Antwerp and his atlas was published in Antwerp in 1570, with a very beautiful decorative frontispiece. It showed human figures representing the four great continents, and the head and shoulders of a fifth (Magellanica), the unknown southern land which lay beyond Magellan's farthest south, thought to be another mighty continent till 1616, when Schouten rounded the Cape and called it after his birthplace,

Photo: Aerofilms, Ltd.

Air View of the Great West Road, showing "Ribbon" Development.

(*See page* 567.)

Hoorn. They would read also a description of America, where she was described as "avaricious, slaying and eating her enemies." In the Ortelius map of the world they found practically everything in the temperate regions, and the northern territories were to be seen in a way never shown before. In the 16th century, maps in single sheets were published in Italy, Germany, Switzerland and the Netherlands, and some of these were copied by Ortelius. The lecturer proceeded to show slides of Mercator's atlas. Gerardus Mercator was born in 1512 in the Netherlands and in 1554 was prosecuted for heresy with a number of his friends, of whom two were burned, two buried alive and two beheaded. He escaped into Germany and was made geographer at Duisburg, but it was not till 1595, shortly after his death, that his complete atlas was published. Mercator's atlas was the first to be described as an atlas. In his original frontispiece he showed the picture of Atlas supporting the world on his shoulders, and from this time onwards the term atlas was used to describe a collection of maps. The greatest atlas of all of the period was that published by Bleau, of Amsterdam. It was in 12 folio volumes and was published in Amsterdam in 1662. Two volumes gave British and Irish maps alone.

Last they came to the portolan or seamen's charts, which were interesting, because they dated back to practically the same period as the Monastic maps. They were made on sheep or goat skins, and it was only natural to suppose that they would not be preserved. The earliest they had was now in the Bibliothéque Nationale, Paris, and was known as the Carte Pisane, and it was actually dated 1300.

Brigadier-General H. St. J. L. Winterbotham (Ordnance Survey Dept.) proposed a vote of thanks to Mr. Cadbury, and said they might be town-planning Birmingham in several volumes, but they would not show so much as if they drew a map. Thousands of the earlier plans were property plans, and many were to be found in Egypt. In England they had some priceless works, which were all that were left to show the growth of the English land system and land tenures. They found in Oxford and Cambridge the work of Taylor and Langdon, who were the first operators of the Ordnance Survey, and he was trying to collect as much of their work as he could.

Professor S. D. Adshead, in seconding the motion, said he must confess that much as he had to do with maps, his archæological knowledge of them was very sketchy. He was afraid town-planners did not take sufficient interest in these old maps, and perhaps the reason was because all maps were really convention. The different methods of indicating the interests of land were bound to be convention, and those who had to make maps found the greatest difficulty in finding the exact convention which would not become a confusion. He was pleased to see that recently there had been a certain resuscitation of the old maps. They saw them occasionally on the Underground Railway.

Sir Laurence Chubb said they owed an immense debt of gratitude to the Ordnance Survey for the maps they had produced. He wished sometimes they could have workmanship as delightful to the eye as the old 6 in. maps of some 50 or 60 years ago, but, nevertheless, the maps issued by the Department were interesting. Sir Laurence appealed to those in authority to do something to save the surveys and records of the old turnpike roads.

Mr. G. L. Pepler said they had heard of the Ptolemy tradition and apparently he made an ordnance survey which held the field for 1500 years. In this country they found that where the Ordnance Survey had made a survey a good many years ago, afterwards a lot of building took place, and then people tried to bring the Ordnance maps up to date. He wondered whether General Winterbotham could give them some hope that this amateur map-making would not be encouraged and whether the Department could not bring the maps more up to date.

Mr. W. R. Davidge said they did want more trustworthy Ordnance maps. They knew the Department was doing its best, but it was lamentable to see they were frequently 20 or 30 years out of date in districts where it was essential to have an up-to-date map. On the whole, their Ordnance Survey was the envy of Europe.

General Winterbotham said the Ordnance Survey was doing its best, but his staff was decreased whilst the work was growing. It was simply a question of cost.

AERIAL PHOTOGRAPHY

AERIAL photography has made great progress within recent years. From being simply a means of showing terra-firma and the objects upon it from an unconventional and picturesque point of view, it has achieved in its two principal forms—the "oblique" view and the "mosaic" map—a degree of utility that makes it almost indispensable in a large variety of applications, especially in relation to building, engineering, surveying and town-planning. The "oblique" view is often the only means of showing existing conditions over a large area of ground in connection with the construction of roads, housing and engineering schemes. Such views provide an invaluable record of conditions before development, during the progress of the work and at completion. The "oblique" view has been largely adopted for Town Planning Act Reports because of its utility in showing the characteristics of different parts of a town—to illustrate zoning, industrial and residental areas, parkland, land for development, and so forth.

The "mosaic" map, which is prepared from a series of vertical photographs joined together, has the advantage of showing the natural features of the ground and the lay-out of roads and property in their true form. Air surveying, indeed, is now an accepted method of revising the existing Ordnance maps for town-planning and housing schemes, and other civil and municipal purposes. Surveys can be quickly made from the air by a series of photographs, showing new areas where developments have taken place, and the maps can be prepared to the usual standard scales. The value of such photographs is attested by the surveyor of an important local authority, who writes in reference to an air survey: "The accuracy of the resulting photo plan is nearly as great as could be obtained by a chain survey and much greater than I have got by plane tabling. There has also been a great saving of time and expense." A set of stereoscopic photographs can also be supplied, which, when examined in the stereoscope, show the ground in relief, thus enabling form lines to be studied.

Aerial photography has been largely used in connection with the Parliamentary extension of city boundaries. In the case of Wythenshawe, Manchester, a survey of an area of fifteen square miles was carried out and a large map produced the size of the wall of an average room, showing the justification for the extension of the city boundaries. Part of this survey is shown in the illustration given below. The whole route of the extension of the Underground railway from Finsbury Park to Cockfosters, in Herts, was also surveyed in this way.

Of special interest to the architectural profession is the fact that aerial progress photographs of buildings have often been accepted by architects as proof with certificates authorising payment on account. Many housing estates have been photographed for building contractors, the pictorial lay-out being reproduced in their literature to show the approach from the main roads, distances of tube, bus and tram services. Aerial photography has many other uses and applications, as may be realised from the accompanying views, but enough has been said to show the adaptability of a new representational medium, which is at once a science and an art.

Photo: Aerofilms, Ltd.

Part of "Mosaic" Aerial Map of the Wythenshawe Estate, Manchester, and surrounding area.

"EXTRAS"

By W. T. CRESWELL, Barrister-at-Law, Hon. A.R.I.B.A., A.S.I., etc.

Most building contracts contemplate that an order in writing shall be given before any extra work is done, but, in addition, that written orders are a condition precedent to payment for extra works. And under a contract with these terms, if the contractor claims payment for "extras" for which there is no written order, the question may arise as to whether there has been a waiver of this condition precedent and a promise made by implication to pay for the works as an extra, or whether the extra work is the subject matter of a new contract, *i.e.*, by novation.

In such a contract it is not sufficient for the contractor to be able to prove a verbal order as a waiver of this condition precedent, *i.e.*, the order in writing, but the whole of the attendant circumstances must be considered and the evidence may be such as will entitle the contractor to receive payment. And for the purpose of consideration, as Lord Atkinson said in Brodie *v.* Cardiff Corporation (1919), A.C. 337, "The contract must be construed as a whole, effect being given, so far as practicable, to each of its provisions." In this case there was a lump-sum contract, and disputes arose during the progress of the work as to certain requirements of the engineer whereby he required that certain parts of the work should be executed in a particular manner and with specific materials. The contractor contended that these requirements were outside the scope of his undertakings and created extras for which he was entitled to be paid in addition to the contract price, and therefore asked for the engineer's order in writing. The engineer, however, refused to give written orders on the grounds that the contract permitted him to require these things as within the contractor's undertaking.

Of the contract Lord Atkinson said, "It was, I think, the bounden duty of the engineer towards the contractor to deal, as extra works, with those works which he was honestly of opinion were extra works, and it was equally his bounden duty to his employer not to treat as extra works those works which he was honestly of opinion were not of that character. However erroneous his opinion might be, he could not be compelled to change it, or to act as if he had changed it. He could adhere to it to the last, and refuse to give any order in writing for the execution of works, as extra works, which he was honestly of opinion were not so."

This contract, however, provided that in case of any dispute arising during the progress of the works, or after completion of the works, it was to be referred to the final decision of a single arbitrator; and that either party to the contract could demand an immediate determination by him of the dispute.

The contractor carried out the work, and on the completion of the contract, the matter having been referred to arbitration, the arbitrator found that the requirements of the engineer were not in accordance with the contract, and that he had improperly refused to give orders in writing for the same as extras; and that also, in deciding against the claim of the contractor, the engineer did not act fairly or impartially, but yet that he had no dishonest motive. The House of Lords held, upon these findings, the arbitrator had power to award that the items in question should be paid for as extras, notwithstanding the absence of any orders in writing by the engineer.

It was said that the effect of such a contract is, that *the finding of the arbitrator takes the place of the order in writing* which should have been given by the engineer, the real dispute before the arbitrator, which his reward was to determine finally, being whether, under all the circumstances, the contractor should be paid for the work he in fact executed, though no written order had been given for it by the engineer. It was clear that by the terms of the contract the opinions of the engineer and the decisions of the engineer as to extra work were arbitrable, and that only the determination of the single arbitrator was final and conclusive, and that under the arbitration clause of the contract there was sufficient scope to include questions of extras.

The case to which we have referred is perhaps the leading case as to recovery of payment for extras without an order in writing. Lord Shaw of Dunfermline, in his judgment, said there were three cases to be considered:

(1) Work admittedly within the contract and, of course, for which no order in writing by the engineer was required;

(2) Work admittedly outside the contract for which the corporation was not liable unless ordered by the engineer in writing;

(3) Work with regard to which there is no admission and as to which the parties are at issue.

The facts of the case showed that it fell within (3) above; and we have pointed out, that the arbitrator's award was held to be a permissible and sufficient substitute for a written order by the engineer recognising it as an extra outside the contract.

Notice of Claim.

Some building contracts provide that the contractor shall give notice of his claim for extras; and that in these circumstances this notice is a condition precedent to the architect's consideration of the claim. Further, the contract may even provide that a notice of claim from the contractor is a condition precedent to the determination of the arbitrator regarding the claim.

There can be no doubt that there can be recovery for extras without an order in writing, not only where there is a waiver or new contract, but also if it can be shown that extra work is definitely outside the contract work, or where there is some conduct of the architect or employer which amounts to fraud or dishonesty of motive.

In Hill *v.* South Staffordshire Railway Co. (1865), 12 L.T. 63, it was held to be a fraud for an employer to request alterations and additions to be made by the contractor, to stand by and see the expenditure going on and take the benefit of the work, and then refuse to pay because there was no written order. And in Molloy *v.* Liebe (1910), 102 L.T. 616, where the employer insisted on the contractor doing work which he (the contractor) said was not included in the contract work, it was held that if an arbitrator subsequently finds the work to be extra, his decision enables him to award payment to the contractor for the work as an extra, because the employer's refusal was made under a misconception, and therefore an implied promise to pay could be inferred when he was convinced of his error.

THE WEEK IN PARLIAMENT

WESTMINSTER, Wednesday.

Town and Country Planning Bill.

DURING further proceedings in Standing Committee A on this Bill,

MR. TRAIN moved to omit the sub-section of Clause II, which states that town planning schemes may provide for suspending the operation of any provision, whether contained in a Statute or in an Order, by-law or regulation where this should be necessary to expedite or promote planning.

SIR E. HILTON YOUNG said that no question arose of the arbitrary suspension of any Act of Parliament; the only question was the exercise of powers which were necessary and indeed essential for town planning. He recognised that the suspension of Statutes was a matter that the House of Commons and that Committee would look on with the most careful scrutiny, but he had already indicated that there was a pretty sharp distinction between suspending a local Act and a public general Act of Parliament. As a matter of fact, the instances which had already taken place of suspension of general Statutes were for the sake of assisting the owners of land affected by town planning schemes and protecting them from the burdens, loss and nuisance of duplicated enactments, restricting them in the use of their land and puzzling them as to what their rights were. The principle which he would lay down was that a public general Statute should not be suspended except by the authority of Parliament itself, and he proposed that the power of suspension should be limited, in the first place, to four particular provisions in public general Statutes which had been commonly suspended in the past in relation to town planning, and which would be scheduled in the Bill. As to the more difficult question of the possibility of suspension of other Acts in the interests of town planning and of landowners in the future, it would be imposing too great a rigidity to refuse such power. He proposed that, except in the case of the Acts to be scheduled, no further Act could be suspended without an affirmative resolution of Parliament. Once the suspension had been approved it would not be reasonable that Parliament should be troubled with affirmative resolutions on every repetition of the suspension.

LIEUT.-COL. FREMANTLE declared that town planning authorities would be gravely disappointed at the concession which the Minister had announced, because it was very difficult to get an affirmative resolution through Parliament, even where there was agreement, because of the limits of Parliamentary time. But, regrettable as the concession was, much had to be done to educate public opinion on town and country planning. Those who wished to advance such planning had, in their enthusiasm, gone ahead of public opinion, and from that point of view it was right that Parliament should insert the safeguards which the Minister had proposed.

LORD HARTINGTON thanked the Minister for the concession, and said that town planning experts appeared to think they could ride rough-shod over the law of the land.

SIR E. HILTON YOUNG said that the course now proposed would place no obstacle in the way of town planning.

The amendment was withdrawn.

On Clause 12, which deals with provisions in town planning schemes with respect to buildings,

MR. RHYS asked what would be the power of the local authorities over existing buildings.

SIR E. HILTON YOUNG said that, broadly, the position would be that existing buildings, both as to their nature and use, would be controlled under town planning. But, if the owner suffered owing to the exercise of any of the powers of the Bill over the nature of the building or its alteration, or over its use, the owner was entitled to full compensation. The owner was given the right that, if he were required to pull down his building, he could erect a building of at least equal size and use it for the same purpose as before. If that right were interfered with by town planning, he was entitled to full compensation for the restriction of the right of replacement. Clause 18 was so widely drawn that it preserved rights of compensation to occupiers.

Price of Bricks.

MR. LOGAN asked the Minister of Health if his attention had been drawn to the price of bricks, which was now per 1,000, best stocks, £4 3s. 6d., flettons £2 11s. 3d., and glazed £20 10s., as compared with the following prices in August 1914: Best stocks £1 16s., flettons £1 14s., and glazed £13; and whether any action was being taken to obtain a reduction in the price, in view of the need of materials for housing the working classes.

SIR E. HILTON YOUNG said the reply was in the affirmative. The Inter-Departmental Committee appointed to review the prices of building materials was at present engaged upon a survey of these prices. He might, however, point out that glazed bricks were not used in the construction of working-class houses.

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

QUESTIONS.

Provision for Electrical Services.

SIR,—Can you recommend any publication that gives an adequate description of the provision of modern electrical services? I have in mind something on the same lines as the recent booklet got out by the London telephone service for the assistance of architects in making provision for telephones.

FOOTCANDLE.

Cement or Lime Mortar.

SIR,—I am engaged upon preparing plans for a housing estate, and am considering the respective merits of cement and lime mortar as regards damp-resistants. I am anxious to use cement in order to get a white joint, but I have been warned that cement mortar is apt to allow penetration of damp. Your views would be of interest.

A.R.I.B.A.

Soundproofing Floor.

SIR,—We have a floor at first-floor level covered with 1¼ in. grooved-and-tongued secret-nailed oak boarding, and the soffit of the floor is plastered. This floor has been found to be anything but soundproof, and we should be glad if you could inform us, or could refer us to any specialist who can inform us, how this floor can be made practically soundproof without removing the existing floor boards or ceiling. It would not be impracticable to increase the thickness of the floor by lowering some 3 in. to 4 in.

C. & Co.

Errors in Pricing Quantities.

SIR,—I should be interested to have the views of your legal contributor upon a point constantly arising in practice. It frequently happens that a contractor makes an error, inadvertently or otherwise, in pricing quantities, in either extensions or casts, or in both, and this may, through carelessness, or lack of time to check, remain undiscovered until the final accounts are prepared. Should it be found necessary to adjust an item of this nature, what would be the rate? I have the impression that with a contract having the R.I.B.A. form (July, 1931) the contract is "lump sum," and therefore the rate should be adjusted to suit the error; but where the contract is "Measure and Value" the rate would be retained. I presume clause No. 11 of the new R.I.B.A. Form of Contract does not apply in this case, neither would clause No. 12a in the old R.I.B.A. Form of Contract, although in the latter case the word "calculation" is mentioned. PERPLEXED.

Builders' Accounts.

SIR,—Could I be favoured with your readers' opinions on the following:—

(*a*) Is it the normal procedure in preparing builders' accounts not to have as an asset work in progress then, assuming that the business is to continue in trading?

(*b*) Is it allowable for the owner of the business to have work carried out on an extensive scale and to make charges such as "Sub-contractors, haulage, railway carriage, railway fares of men travelling to and from their work," overheads?

(*c*) Is it correct to pay in "capital" and use it for meeting creditors, mainly creditors due to his own work?

(*d*) Where does a capital charge end in respect of totally new machine plant? Does it stop when the machines reach their home rail terminus? Should all charges after such as for haulage, belting, pulleys, shafting and setting down become a charge on the trading account?

(*e*) Is it a correct procedure to prepare and present accounts of a firm using a trading name as of that firm before it is registered under the Business Names Act?

(*f*) Is it really the fact that income tax assessment is made on the assumption "that a man—trading—cannot make a profit out of himself, and therefore the accounts become fictitious if a margin of profit is added to these accounts," and is passed by that authority on such a text?

I have been assured that such is the correct procedure. Suppose, then, it is so, what eventually happens is a financial position arises which would be detrimental to the interests of the manager, especially so if over a period of years 20 per cent. of the work carried out on these lines is for the owner.

F. R.

Half Timbering.

SIR,—If any of your correspondents have had experience in Columbian pine for use as half timbering I should be glad to have their opinion as to its advantages and disadvantages.

FACING.

Lead Work.

SIR,—What weights of lead are desirable in the best work for the following purposes:—Flats, small gutters, flushings, and soakers?

STUDENT.

Water in Storage.

SIR,—I should be glad of advice as to how water in storage should be treated to avoid the development of injurious growths. Is there any danger in the storage of river water for domestic purposes? ESTATES.

Domestic Hot-water System.

SIR,—I am troubled with an extremely soft water from the public supply. Is there any process by which boilers can be treated to avoid the deterioration we find from this source? COUNTRY.

ANSWERS.

Rain and Fixed or "Dead" Casement Lights.

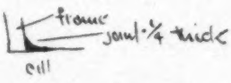
[ANSWERS TO "REXOR," MARCH 18.]

SIR,—It is not likely that the crack opens with the wind, but it is merely a case of the constant outside pressure of wind in a gale encouraging the inward direction of capillary attraction through a hair crack. Bituminous mastic is more permanent and inert than a lead compound. There are many such materials on the market suitable for this purpose, and paintwork can be applied over same without fear of deterioration.

PRACTICE.

SIR,—I think the difficulties can be completely overcome without taking out the sashes and rebedding in white lead, which, to my mind, would be unsatisfactory, as it is not elastic enough. The trouble is expansion and contraction owing to different temperatures, which will break any but an elastic joint; also I think it will be found that the rain enters at the sides of the sashes, runs down and out at the bottom inside.

In any case, the cure is this: Scrape off all paint to bare wood all round the sash bottom, top and sides, and make a joint thus:—



about ¼-in. thick fillet of scaling compound. This compound is everlasting and permanently plastic, and will seal any leak, no matter how bad.

L. RENTON.

SIR,—I would suggest that the trouble might be definitely cured by taking out the sashes and running a groove in the bottom rails of sashes and a corresponding groove in the sills of the frame, the grooves to be about ½ in. deep by ¼ in. wide, the sashes refixed with a metal 1-in. by ¼-in. water bar, bedded in white lead in the groove, thus effectually preventing the entrance of water in that direction. H. ALLCROFT.

Question of Construction.

[ANSWERS TO "G. F.," MARCH 18.]

SIR,—The cavity is undoubtedly (for reasons already given in previous answers) the better method of construction. I would add that if, as suggested, the wall ties were used, they would probably be a source of trouble, as, the void being so narrow, the ties would simply conduct the moisture from one wall to the other. H. ALLCROFT.

SIR,—It is difficult to keep even a 2-in. cavity clear of mortar droppings forming direct contact between the two faces. To keep a smaller cavity clear would be well-nigh impossible. Also it is a mistake to regard cement as a damp-proof material. The loose droppings of even a rich mortar would carry the damp across like a sponge.

CAVITY.

Snow Driven Through Plain Tiling.

[ANSWER TO "REXOR," MARCH 18.]

SIR,—A satisfactory remedy can only be achieved by thorough means. Torching is one method, though it has its disadvantages, and the stripping of the roof, but the boarding, felting, counter battening, battening, and retiling to a bigger lap is a better method. The lining of the underside is a doubtful makeshift, but is not likely to cause the trouble "Rexor" fears. As a matter of fact, an unlined roof is liable to promote the driving loose of the tiles on the lee side of the roof by wind entering inside and exerting direct pressure on the opposite underside. PRACTICE.

Ventilation of Septic Tank.

[ANSWER TO "SANITARY," MARCH 4.]

SIR,—The germination in a septic tank needs the exclusion of light and air, in fact, if the cover of such a tank be lifted in daylight it is possible to see the scum turning white in a very few moments. A vent-pipe, therefore, acts against efficiency and will only promote smells. A cesspool being a sealed chamber would accumulate gas pressure sufficient to lift the cover or blow the water seal in the trap if not ventilated. The septic tank needs no such safety valve, being relieved of pressure from the outlet. DRAINS.

Time and Material Work.

[ANSWER TO "QUANTITIES," JANUARY 8.]

SIR,—It is quite impossible to give a general rule as to the proportionate quota of time and material for all works and all trades. For rough and ready estimates for most trades the cost of material doubled gives a general guide to probable cost; but there are many exceptions to this which would need a book of print to explain.

COSTS.

Heating System.

[ANSWER TO "OWNER," JANUARY 8.]

SIR,—It is bad heating practice to depend for the balance of circulation on the manipulation of stop-valves. If the system is properly designed and the pipes for various circuits correctly sized, there is no need for regulating valves. Your correspondent should call in the firm who designed the system to re-regulate the stop-valves and take off the controls.

CIRCULATION.

Licensing Question.

[ANSWER TO "LICENCE," FEBRUARY 5.]

SIR,—On the facts as stated it is obviously easy to obtain a special transfer of the licence to the disused house on the score of public benefit. But when the new house is complete the grounds on which the licence can be specially transferred back to the new house are not clear. It might very well arise that the justices, however anxious to oblige, might find themselves confronted by a hopeless legal obstacle. Your correspondent would be well advised to have the licence undisturbed in temporary accommodation on the site during the rebuilding, in the usual manner

LEXICON.

Fireproofing Woodwork.

[ANSWER TO "CHARTERED," MARCH 11.]

SIR,—I should advise your correspondent to get in touch with the Building Research Board, who would be able to give the latest information on the subject. PRACTICE.

THE BUILDING TRADE

THE LESSONS OF EXPERIENCE.—XIII

By J. R. TAYLOR.

DAMP NEW BUILDINGS (*continued*).

I HAVE always regarded the cavity wall as a "new-fangled" abomination, but now find that Vitruvius, one of the world's earliest writers on building subjects, had something to say about it. I mention this because I am going to refer to the damp-proof course as being comparatively new, and possibly, later on, I shall find that some wise old architect of a pre-Roman age knew all about it and proclaimed its virtue to an unbelieving world. Be that as it may, it was not until late in the latter half of the last century that the damp-proof course came into anything like general use, and, before that time, the architect had to use his best endeavours to keep his buildings reasonably dry without it. The coming of the damp-proof course gave the architect a welcome relief from one of his major troubles, but it brought about a relaxation of vigilance. Both the architect and the builder seemed to come to the conclusion that as long as a building had a cast-iron eaves gutter and a damp-proof course, all other means of safeguarding it from the penetration of damp could be scrapped, or, if retained, be regarded as merely ornamental. And then, finding that sufficient damp still came through the walls to ruin choice wall papers, and that even an underlining of tarred paper offered insufficient protection, somebody rediscovered the cavity wall.

Certain forms of construction were obviously designed in the first instance by somebody thinking about damp penetration, but often mangled later on by somebody else in the belief that such features were merely ornamental. Who has not seen, for instance, a stone cill set in an ordinary brick wall flush with the face merely because the architect liked a cill of that design when seen in the stone wall of a church? He has not stopped to consider that in the church the walls below cills are usually very much thicker; that the rock-faced stones tend to cascade the water running off the windows; that the windows may have a drip mold over to divert the water from above; that the interior of the walls may often be regarded as analogous to lime concrete, or, at least, béton; that usually they are protected with eaves having considerable protection, and that where windows having this form of cill occur in the gable of a church, or are in other ways insufficiently protected, damp penetration usually follows.

Churches, taken as a whole, cannot be regarded as ideal from the point of view of dryness, and many of them are distinctly damp, especially so where the heating apparatus is put into use but once a week; but probably with most of the older ones more damp rises through the floors than comes in through the walls. A study of the work in detail may teach lessons of great value if the student keeps constantly in mind the fact that all old detailing had an underlying practical purpose, and it was not until this had in some measure been achieved that the architect gave rein to his fancy and contrived to combine beauty with utility.

In a previous article I referred to rain being driven over the verge of roofing slates or tiles and adding to the amount of water received by the gable walls. The architect of earlier days recognised the need for further protection at the gables, and therefore projected the roof covering on barge boards or outer spars; in addition, he tilted the edges of the slates or tiles up a little in order to correct the tendency of the water to flow over the verge. Aiming at a useful thing, he attained a beautiful one; but many others have since, for want of a better understanding, set up a weakness at some distance along the roof by exaggerating the tilt. So, too, with the eaves; the architect put in a little more tilt than was necessary to get close-lying slates in the succeeding courses, and though it has been said in explanation that this was to check capillary action, I believe the real reason to be a desire, in the absence of guttering, to utilise the accelerated action of the flowing water to leap further forward and so fall clear of the walls; but to over-emphasise this tilt so as to get the bellmouth effect that is both useful and ornamental in thatch introduces a weakness into slating.

Even the cornice had a useful as well as an ornamental purpose. Stand an unsharpened lead pencil on end and blow at it gently and it falls very easily; balance some coins on top of it and it is more difficult to blow over. Thus, on tall chimney shafts it is usual to fix a very heavy stone cornice, so jointed as to make it as nearly monolithic as possible, and a heavy blocking course above. The undercut outline or profile is dictated more by a desire for protection than for obtaining beauty by means of light and shade. In timber-framed construction the oversailing of succeeding stories gave valuable shelter to the walls below; to-day the memory of this is often found perpetuated in a projecting band or string course so badly detailed as to invite water into the interior of the wall rather than throw it off.

Then came the damp-proof course and the cheaper cast-iron eaves gutter: and as at about the same time came the machine-made brick and the jerry builder, it came about that the useful side of detailing received less thought.. Back went the eaves until the gutter became a cornice mold perched on top of the wall. Away went the barge boards and the projection at the verges, and along came the advertiser with his announcements painted in bold letters on the stucco he was willing to put on gables deprived of protection. In some poor quarters even the frequently renewed billstickers' posters were found of some service in excluding a little of the rain. A damp-proof course properly placed gives a service of great value, but will not of itself ensure a dry house if the walls are ill built and the detailing poor.

Theoretically the properly constructed cavity wall offers an impregnable defence to complete penetration of moisture. But it is a method of construction calling for such exactness, care and skill on the part of the craftsman that it is questionable whether it is worth its true cost when this skill and care are given. We are told that the Research Station has investigated a considerable number of cases where complaints have been made of the penetration of damp through cavity walls, but that in each instance the cause could be found in want of care in construction. This want of care is exactly what might be expected to happen, and in fact does happen all over the country, and on every working day throughout the year. I have seen a considerable number of cavity walls opened up for one purpose or another, including some disturbed by foundation failure, but I have yet to see one entirely free from mortar droppings. In many cases, and particularly in housing work, they are built at labour costs so low as to preclude special care. Not every ill-built cavity wall, however, gives early evidence of its want of resistance to wind-driven rain, nor for that matter does every ill-built solid wall. Mr. Fitzmaurice, in his valuable paper on this subject (given in *The Builder* for March 11 and 18), says: "It has often been remarked that the speculative builder escapes moisture penetration through his walls." He was referring to solid walls. Throughout the country the total number of buildings in existence having cavity walls is as yet a very small percentage of the whole, which is an important factor to consider before coming to conclusions as to the respective frequencies of failure. It is also necessary to classify the complaints and group them. My own experience leads me to believe that in the majority of cases where damp strikes through a solidly built wall subjected to no more than average exposure, and not in immediate want of repointing, it will be found in any one or some or all of the following causes, and I have placed them in order of frequency:—(a) Want of care in building resulting in the joints not being solidly filled with mortar. (b) Poor quality mortar. (c) Poor quality bricks. No better test of the rain-resistance of a wall could be found than that which was imposed during the winter of 1929-30, and the real matter for surprise is that complaints were not even more numerous than they were. Given about an equal degree of exposure, the smooth-faced machine-pressed brick of the Midlands gave better results than the rustics, though perhaps not much better than some old hard-burnt hand-made bricks of a texture similar to that of best London stocks but red in colour. The better the general quality of the building the better the results—at least, that was my experience of a district where exposure calls for a 3½ in. lap to cottage slating.

Where the quality of the bricks is at fault the fact is generally fairly obvious in a district where the most usual bond is four courses of stretchers to one of headers. This bond shows up very strikingly the difference between work faced with better quality bricks and that which is not faced.

It was also noted that ground mill mortar, consisting largely of furnace clinker, gave a harder mortar if tried with a knife blade, but was more readily penetrated by rain than hand-made mortar of sand and lime. Walls of good-quality bricks that had been repointed in 1927 with cement mortar, though but one brick thick, and situated in a very bleak spot and fully exposed, came through the winter referred to above quite successfully.

Leaving aside for the moment the question of general stability and confining ourselves to that of resistance to penetration of moisture, I differ in no way from the Research Station when it is said that, when damp comes through a cavity wall it shows that it is not properly constructed. I entirely agree, but add that very few of them are properly constructed. That they do not make a worse showing is due to the same causes that operate to hide for a time the poor quality of workmanship so often put into the construction of solid walls. I will also concede that up to a point a poorly built cavity wall will for a longer time resist complete penetration than a poorly built solid wall; but where there is a real desire to turn out good work I still maintain that the true cost of cavity walling is in excess of that of other methods which would give better average results. In relation to one of these other methods—that of providing an internal coating of waterproofed cement—it has been objected that the continuity would be destroyed by the wall ties. The short answer to this is that there is no real need for any ties, as may be seen from the illustration (Fig. 38) facing page 92 of the Building Research Board Report for 1927. Two leaves of a wall joined together with waterproofed cement would be amply strong enough for domestic work without the addition of wall ties. It is also said that there might be crazing in the cement lining, but I suggest that, given a little care in the wetting of the bricks, it is unlikely to be so extensive as to lead to ill results. The method I propose is as follows:—Build without headers. Build the outer skin first to as great a height as the bricks and mortar used will permit. Build this skin with whatever

mortar best suits the bricks used, but parget the inside face with waterproofed rapid-hardening cement mortar. Next build the inner skin, using waterproofed cement for beds and cross-joints, and against the face of the pargetting already in position. When the inner skin has been carried up to the same height as the outer, start again as before and carry on in similar cycles to completion. This, I claim, would give far better average results than those usually obtained in ordinary cavity work, at less cost.

On the Welsh hills houses have been built under conditions of exposure of exceptional severity and with cavities grouted up with waterproofed cement mortar stiff enough to need prodding with the trowel, and satisfactory results have been obtained; but to get them has entailed close supervision, and probably the method put forward in the last paragraph would give better average results in general practice. Needless to say, the bricks used for the inner skin should be such as are known to be suitable for use with cement mortar.

As regards efflorescence, I have for some years puzzled over an old boundary wall built of beautiful handmade bricks in lime mortar to an architect's detail. It is about 100 years old. Here and there may be found a patch of cement pointing, but the proportion so treated is very small. Periodically nearly the whole of the surface of the wall is covered with a salt-like deposit as dense as hoar frost, which remains for a day or two and then fades away, leaving behind a filigree pattern looking like scum. This also fades, but not completely. The wall is situated in a village with no industrial works nearer than 5 miles, but at 7 miles there is a chemical works. An old house built at the same time with bricks from the same source (the wall belongs to the house) shows very little, if any, efflorescence, though as it is now used as a shop the upper part has no fires lighted in it. On the other hand, the third story, though having outer walls but one brick thick, only showed up damp when a length of guttering was broken and remained unrepaired for some time.

Nothing I have said is meant to belittle the most valuable work that is being done at the Research Station. In the reports issued annually from 1927 onwards there is a store of knowledge of great value, in every way worth close study; and these reports represent but a small part of the Station's work.

THE NORTHERN POLYTECHNIC

THE annual speech night of the Department of Architecture, Surveying and Building at the Northern Polytechnic, was held on Thursday, March 17, when, in the presence of a distinguished company, the prizes were distributed by Viscount Burnham. Mr. R. L. Roberts, M.A., the chairman of the governing body, presided.

Opening the proceedings, Mr. Roberts said the work of the department illustrated far more adequately than mere words the very high standard of work maintained at the Polytechnic. In these times of stringent economy it was a matter of controversy whether a prize-giving should be organised at all, but he held the view that students should not be deprived of the proper and just rewards of their efforts. Actually, the expenditure involved was very small, since most prizes constituted the kind donations of friends of the department. He also wished to thank the judges of prizes for their kindness in coming year after year to assist in that connection.

Mr. T. E. Scott, F.R.I.B.A., head of the department, in presenting his report, said he considered the exhibits in the hall and workshops, although only an illustration of a portion of the work of the department, constituted the best report. Although there were no outstanding developments, the number of students was increasing, and the standard of work remained very high. One success must be mentioned, and that was the award of the Rome Scholarship in Architecture to Mr. C. St. C. Oakes. This was the highest award in architecture in the country, and reflected great credit upon the teaching staff of the Polytechnic. The speaker attributed the very satisfactory work to the enthusiasm of students, the loyal co-operation of his staff throughout a very trying winter, and to the valuable assistance of the various professional bodies who maintained a most helpful degree of co-operation with the work of the school. Their thanks were due to Mr. A. E. Thornton, A.C.I.S., who had very capably organised the prize-giving, the result of many months' hard work.

Dr. Raymond Unwin, P.R.I.B.A., after congratulating prize-winners, in the course of an address said that in the building industry we had art and science, very important factors, since life itself was an art based upon a science, and it was a proper understanding of the difference between these that enabled the industry to be carried on as it should be. Science consisted mainly of quantities and constituents, all of which had to be correct and precise, but art consisted more of values and qualities. In science, three and two must make five, not more, not less, but if in art three and two made only five, one failed. It was just that something more, the expression of one's own convictions, that made the all-important difference. Referring to old buildings, the speaker said it was a common thing in this country to love the old because it was old. Undoubtedly, there were always beauties and charm to be found in old buildings, but it was not logic not to admire new buildings because they were new. There was a great deal that was new in design and construction; what was needed was fitness for purpose, and simple and direct construction. He was glad of the degree of co-operation which existed between the building industry and the students of the Institute, but they must learn to supplement each other more. Instead of paying people for doing nothing, they should be paid to pull down the slums in which many thousands were forced to exist, and build the decent, comfortable homes which every citizen had a right to expect.

The prizes were then distributed by Viscount Burnham, who gave an address to students.

Dr. Drakeley, the principal of the Polytechnic, then moved a vote of thanks to the speakers. Referring to the work of the department, he said it gave him great pleasure to work with members of a staff which showed such enthusiasm, and in whom complete trust and confidence could be reposed. In addition to the hard work, the students were actively engaged in various societies, and he mentioned particularly the Architectrual Society. They were all pleased to see the great interest taken by visitors in attending that night, and on the platform there were no fewer than eight reigning presidents of bodies connected with the building industry. In conclusion, to those who had been successful in gaining prizes, he extended his congratulations, but advised those who had not been successful not to be discouraged; there was plenty of scope for all in the building industry.

The vote of thanks was seconded by Mr. W. H. Ansell, who said that as chairman of the Board of Architectural Education he looked with great interest on the work of the school, which had reached a very different standard from that obtained in earlier years.

Other speakers included Mr. A. H. Adamson, F.I.O.B., Mr. H. M. Walton, M.A., Secretary of the Middlesex Education Committee, and Mr. Howard Robertson, F.R.I.B.A., S.A.D.G., principal of the Architectural Association School.

SOUTHERN COUNTIES BUILDERS:

BOURNEMOUTH AND DISTRICT ANNUAL DINNER.

THE annual dinner of the Bournemouth and District Association of the Southern Counties Federation of Building Trades Employers was held on March 4 at the Pavilion, Bournemouth, when the president, Mr. Carl D. Jenkins, occupied the chair, supported by a large number of members and guests. Amongst those present were the Mayoress of Bournemouth, the Mayors of Poole and Christchurch, Mr. W. J. Brooker (President, Southern Counties Federation), Mr. A. Cannon, Messrs. B. C. Aldous, C. E. Beale, R. F. Seward, W. T. Clegg, A. E. Jukes and H. J. Cheverton.

The toast of the Association was proposed by Mr. W. J. Brooker, who recalled that it was the Association's twenty-ninth dinner. The Association had played a great part in the Federation, and had done splendid work in presenting prizes for technical education. Their example had been followed by one of the eminent quantity surveyors in the town, who had given a prize for quantity surveying. After stating that the summer conference of the Southern Counties Federation would be held in June at Eastbourne, when it was hoped that many from the Bournemouth district would attend, the speaker congratulated Mr. Jenkins on the presidency of such an important Association. Mr. Jenkins had a very honoured name in the building industry, and it was only six years before his firm celebrated its 100 years' successful trading.

The President, responding, after thanking Mr. Brooker for his kind remarks, stated that much of importance had happened in the industry during the last year, and they could point to much progress and achievement. The new 1931 form of contract was an accomplished fact, and he trusted local architects would use it in preference to the older form, especially as their own Institute was a party to its formation. Proceeding, he said that Bournemouth builders had had a most trying time and an anxious winter. Prices had been ridiculously low, and in many cases, perhaps through scarcity of work, healthy competition had almost ceased to exist. He sometimes thought builders were looked upon as philanthropic institutions. The public bought materials and labour at practically cost price, and all their experience, goodwill and that very nebulous item, profit, were thrown in free of charge. Naturally, that was bad for the builder. It must be galling for the architects and quantity surveyors, and he doubted if, in the end, it was good for the client. Standards that had been set up for many years by the better class of builders had been gradually forced down. He appealed to all owners of property in Bournemouth and district, now that they had paid their income tax, to do what they could to set the wheels revolving again. The employers in the building trade had played their part that winter and had often maintained more men than the amount of work warranted, and they were still acutely concerned to see so many of their tried and skilled men forced, very much against their will, to be idle. Economy had gone too far, and perhaps wise spending not far enough.

Did those present realise that for one pound spent in wages they got one pound's worth of work, yet in unemployment relief they spent 6s. 8d. every day and got nothing back? That was the truth, but he did not wish to appear pessimistic. Matters would right themselves again, and their fervent prayer was, "May it be soon."

Speaking on Association affairs, that body, said the President, almost the oldest in the town, covered a period of 34 years, and it had long been felt that it should have a more important emblem of office, so last year to their original badge were added twenty-nine gold links, each engraved with the name of a past-president.

NEW BUILDINGS IN LONDON

Battersea.—Extensions.—Are to be undertaken at the works of Messrs. Hibberts, Ltd., Vicarage-road, Battersea, S.W.11. Plans are now in course of preparation, the architects being Messrs. O. Keith Beattie & Partners, 9, Clarges-street, W.1.

Becontree. — Additions. — The Improved Public House Co., Ltd., 15, Red Lion-street, W.C.1, are to erect additions to the "Robin Hood." Mr. T. F. Ingram, F.R.I.B.A., 12, Buckingham Palace-road, S.W.1, is the architect.

Borough High-street.—Alterations.—Plans have been prepared by the staff architect to the Cannon Brewery Co., Ltd., 160, St. John-street, E.C.1, for alterations to the licensed premises at No. 85.

Brixton-road. — Premises. — New premises are to be erected in Brixton-road, S.W., for Messrs. F. L. Pettman, Ltd., to plans prepared by Messrs. Arthur W. Cooksey & Partners, 6, Adam-street, W.C.2. The builders are Messrs. Trollope & Colls, Ltd., Coleman-street, E.C.2. All sub-contracts in connection with this work have been placed.

Brixton-road.—Rebuilding.—A scheme is proposed for the rebuilding of premises at 379-381, Brixton-road, S.W.9, occupied by Messrs. S. A. Newman (London), Ltd.

Chiswick.—Alterations.—Plans have been prepared by Messrs. W. Hearn & Chuter, architects, 13, Heathfield-terrace, W.4, for alterations, etc., at 21, Spencer-road, W.4.

Chiswick.—Garage.—Plans have been prepared by Mr. S. B. Caulfield, 15, Baker-street, W.1, for a garage in Church-street, W.4, for Capt. G. S. Pryse, Pages-yard, Church-street, W.4. The scheme also includes provision for petrol station and lock-up shop with flat over.

Clerkenwell. — Offices. — New offices and works are to be erected on the site of 54, 55 and 56, Compton-street, Clerkenwell, E.C.1, for Messrs. Pugh Bros. Mr. H. Yolland Boreham, F.R.I.B.A., 1, Museum-street, W.C.1, is the architect, while the builders are Messrs. Allen Fairhead & Sons, Ltd., Enfield, who estimated the work at £10,900.

Croydon.—Church.—Plans have been prepared by Messrs. W. Curtis Green, A.R.A., & Partners, 5, Pickering-place, S.W.1, for a new church at Waddon, for the Croydon Parish Church Council

Croydon.—Fire Station.—The C.B. has approved the proposals for erecting a new fire station on land in Long-lane and Lower Addiscombe-road and have recommended the tender of Messrs. H. and J. Taylor, Hither Green-lane, Lewisham, at £14,782, for the work.

Croydon.—House.—The estimate of Messrs. W. H. Gaze and Sons, Ltd., of High-street, Kingston-on-Thames, has been recommended for acceptance by the C.B. for the erection of a house for the Senior Assistant Medical Officer at the Mental Hospital. The architect is Mr. J. M. Sheppard, F.R.I.B.A., 38, Bedford-place, W.C.1. The tender price is £1,643.

Croydon.—Showrooms.—Messrs. Hobden and Porri, 37, Finsbury-square, E.C.2, are the architects for shops and showrooms at the bridge at London-road and Station-road. The building contract has not yet been settled.

Croydon.—Additions.—Messrs. Berney and Son, 35, High-street, Croydon, are the architects for alterations and additions to the Croydon General Hospital, London-road. The building contract has not yet been settled.

Croydon.—Shops.—Mr. J. Cohen, of Raglan-gardens, Wembley, has submitted plans to the C.B. for shops, flats and offices at the corner of High-street and Coombe-road.

Custom House.—Schools.—Plans are to be prepared by Messrs. Marshall & Partners, Granville House, Arundel-street, W.C.2, for the proposed erection of new Roman Catholic Church schools. The scheme will be carried out under the direction of the Rev. C. Carless, 8, Trockmorten-road, E.16.

Deptford.—Buildings. — Messrs. Culpin and Bowers, Portsmouth-street, W.C.2, are the architects for a totalisator building at the Deptford Dog Racing Track, Hornshay-street and Canterbury-road. No building contracts have yet been placed.

Deptford.—Additions.—Messrs. Courage and Co., Ltd., Anchor Brewhouse, Horsely-down, S.E.1, are erecting additions to the "Rose of Kent" public-house, No. 156, Trundley's-road.

Deptford.—Premises.—Messrs. Kemp and Co., 28, Halons-road, S.E.9, are the builders for premises at the Swedish Wharf, Blackhorse-road.

Downham.—Fire Station.—The L.C.C. has decided to appropriate a site in Reigate-road, Downham, for the erection of a temporary fire station.

Downham.—Premises.—An application has been made to the L.C.C. on behalf of a community which meets at The People's Hall, Lee High-road, for a site for the erection of a gospel hall to seat about 200 persons.

East Barnet. — Extensions. — Alterations and extensions are to be undertaken at the premises known as Oak Hill Park, for the Kingham Hill Trustees. Plans have been prepared by Messrs. W. A. Pite, Son & Fairweather, 12, Carteret-street, Westminster, S.W.1.

Enfield.—Hall.—A contract has been placed with Messrs. Robertson & Cameron, 13, Addington-square, Camberwell, S.E.5, for a church hall at Bush Hill Park. Messrs. Smee & Houchin, 22, Essex-street, Strand, W.C.2, are the architects.

Enfield.—Factory.—New factory buildings are to be erected on the Cambridge Arterial-road, for Messrs. Belling & Lee, Ltd., Queensway Works, Ponders End, under whose direction the plans were prepared. The contractors are Messrs. Commercial Structures, Ltd., Chapel House, 61, City-road, E.C.1. The steelwork contract has been placed with Messrs. Archibald D. Dawnay & Sons.

Gracechurch-street. — Adaptations.—Messrs. C. H. Boyd and Son, Ltd., 37, Craven-terrace, W.2, have secured the contract for adaptations to the branch post office, for H.M.O.W.

Hackney.—Flats.—The Shoreditch Housing Association, Ltd., Toynbee Hall, 28, Commercial-street, E.1, has acquired the site of the Bakers Company's Almshouses in Lime-grove, E., and are proposing to demolish these and erect a block of at least 20 flats. The chairman is Mr. J. L. Hodkinson.

Hammersmith.—Extensions.—The General Motor and Tyre Co., 81, Queen-street, W.6, have leased a site at Riverside Wharf for extensions to their premises. The architect for the scheme is Mr. L. O. Woodward, of Thames Ditton. No building contract has yet been placed.

Holborn. — Alterations.—Messrs. Joseph Lyons & Co., Ltd., Cadby Hall, Hammersmith, W.6, have acquired the premises at the corner of High Holborn and Kingsway, which are to be converted into a new restaurant and shops. The work will be carried out under the direction of the company's own departmental staff.

Hounslow. — Hall. — Messrs. Perbil, of Greenford, have secured a contract for the erection of a drill hall at Alexandra-road. Mr. D. T. Lungley Moore, 15, Bridge-avenue, Hammersmith, W.6, is the architect.

Isleworth.—Houses.—Plans have been prepared by Messrs. G. A. Gale, Ltd., Great West-road, Isleworth, for the erection of over 100 houses on the Syon Hill estate. The contractors are Messrs. Gordon Carrington & Co., Syon Estate.

Lambeth. — Building. — The tender of Messrs. J. W. Ellingham, Ltd., Dartford, has been accepted by the L.C.C. for the erection of a boiler-house, pump-room, chimney-stack at the Lambeth Hospital. The work is estimated at £8,996.

Malden.—Houses.—Plans have been prepared by Messrs. Nightingale, Page & Bennett, Eagle-chambers, Kingston, for 162 houses on an estate off Church-road. The work will be carried out by Messrs. M. J. Gleeson, Ltd., 822, Chesterfield-road, Woodseats, Sheffield.

Mill Hill.—Premises.—Plans have been prepared by the staff architect of Messrs. Truman, Hanbury, Buxton & Co., Ltd., Brick-lane, E.1, for premises at the junction of Daws-lane and the Watford By-pass-road, Mill Hill, N.W.

Norbury.—Houses.—The L.C.C. has recommended a site at Norbury estate having a frontage to Tylecroft-road between Isham-road and Darcy-road, to be sold to Messrs. Truett and Steel, Ltd., for the purpose of the erection of small houses.

Notting Hill.—Building.—The L.C.C. has placed a contract with Messrs. Hammond & Barr, Ltd., Sloane-avenue, S.W.3, at £1,355, for the erection of an ambulance station.

Paddington.—Additions.—Plans have been approved by the B.C. from plans submitted by Messrs. Smee and Houchin, architects, 22, Essex-street, W.C.2, for additions to the Wesleyan Church at the corner of Shirland-road and Sutherland-avenue.

Richmond. — Premises. — Messrs. Fleet & Son, Lower Mortlake-road, Richmond, have acquired a site having frontages to Sheendale-road and Lower Mortlake-road for premises, which will comprise dairy, shops and offices. Plans will be prepared shortly.

Shepherd's Bush.—Flats.—Mr. F. Witt has submitted plans to the Hammersmith B.C. for erection of flats at Cathnor-road, west side.

Sidney-street. — Reconstruction. — The "Sidney Arms" public-house, 9, Sidney-street, E.C., is to be enlarged. The scheme will be carried out by the owners, Messrs. Mann, Crossman & Paulin, Ltd., Whitechapel-road, E.1.

Southfield.—Additions.—Messrs. Kirk & Kirk, Ltd., 287, Upper Richmond-road, S.W.15, are carrying out additions to the "Foresters Arms," 84 and 86, Point Pleasant.

Southall. — Extensions. — The factory of Messrs. T. G. Tickler, Ltd., Scotts-road, is to be extended. The contract will be carried out by Messrs. Fairweather & Ranger, 111, Charing Cross-road, W.C.

Stepney.—Buildings.—The L.C.C. has received application from the Roman Catholic Church authorities for a site on the Prusom-street area, with frontages to Red Lion-street, Chandler-street and Meeting House-alley, for the erection of buildings in connection with St. Patrick's Church.

Tooting.—School.—A site is to be secured for the proposed erection of a Sunday school hall, for the Baptist Church, Longley-road.

Tooting.—Building.—Plans have been prepared by Mr. G. Mackenzie Trench, F.R.I.B.A., architect to the Metropolitan Police, New Scotland-yard, S.W.1, for a new police station at Mitcham-road, S.W.

Tottenham.—Extensions.—Extensions are being carried out at the works of Messrs. A. & W. Flatau & Co., Ltd., of Hale, Tottenham, N.17. Plans have been prepared by Messrs. Clifford Tee & Gale, 50, Moorgate, E.C.2. The contractors are Messrs. Horace V. Clogg, Ltd., 159, Hanbury-street, E.

Wandsworth. — Housing. — The B.C. has declared the houses and premises in Cumbers-yard and Garden-cottages, Wandsworth Plain, to be clearance areas. Schemes have been prepared by Mr. G. Leonard Elkington, A.R.I.B.A., 7, Laurence Pountney-hill, E.C.4, and submitted for the erection of 57 tenement flats and six shops. The architect has estimated the scheme at £36,600.

Westminster.—Rebuilding.—A contract has been placed for the rebuilding of the "Marquis of Granby," on a site at the corner of Horseferry-road and Romney-street, S.W.1, for Messrs. Hoare & Co., Ltd., Red Lion Brewery, St. Katherine's-way, E.1, whose staff architect prepared the plans. The contractors are Messrs. G. E. Wallis & Sons, Ltd., Medway House, Old Cavendish-street, W.1.

Worcester Park.—Houses.—Messrs. J. & R. Thompson (London), Ltd., Springfield Works, 62, Horn-lane, Acton, W.3, are to erect a number of high-class houses on a portion of the Stoneleigh estate.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1932.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Accrington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Aldershot	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Alfreton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Alnwick	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Altrincham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ashford (Kent)	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Ashington	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Ashton-under-Lyne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Aylsham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Banbury	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Barnsley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Barnstaple	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Barrow-in-Furness	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Barry	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Basingstoke	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bath	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bedford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Berwick	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bexhill	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Birkenhead	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Birmingham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bishop Auckland	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Blackburn	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Blackpool	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bognor Regis	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Bolton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bournemouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bradford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bradford-on-Avon	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Braintree	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Brentwood	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bridgwater	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bridlington	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Brighton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bristol	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bromsgrove	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bromyard	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Bungay	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Burnley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Burton-on-Trent	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bury St. Edmunds	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Buxton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cambridge	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Canterbury	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Cardiff	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Carlisle	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chatham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Chelmsford	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Cheltenham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Chester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chesterfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chorley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cirencester	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Clacton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Colchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Coventry	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cranbrook	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Crewe	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Cromer	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Darlington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Deal	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Denbigh	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Derby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Devizes	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Dewsbury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Doncaster	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Dorchester	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Dorking	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Dovercourt	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Driffield	1/4	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Droitwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Dudley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Durham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Eastbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
E.Glam.(Mon.Val.)	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Ely	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Exeter	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Exmouth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Fakenham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Felixstowe	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Folkestone	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Frome	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Glossop	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Gloucester	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Godalming	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Goole	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Gosport	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Grantham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Gt. Yarmouth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Grimsby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Guildford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Halifax	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Harpenden	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	12½
Harrogate	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hartlepools	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Harwich	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Hastings	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Hatfield	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hednesford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hereford	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Herne Bay	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Hertford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hitchin	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hoddesdon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Holt	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Huddersfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hull	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hunstanton	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Huntingdon	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Isle of Wight	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Ipswich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Keighley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kettering	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Kidderminster	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Kings Lynn	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Lancaster	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leamington Spa	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Leeds	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leicester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leighton Buzzard	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Lichfield	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Lincoln	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Littlehampton	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Liverpool	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Llandudno	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Llanelly	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
London—								
12 m. radius	1/7½	1/7½	1/7½	*	1/7½	1/7½	1/6½	1/2½
12-15 m. radius	1/7	1/7	1/7	*	1/7	1/7	1/6	1/2½
Loughborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Lowestoft	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Luton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Macclesfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Maidstone	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Malvern	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Manchester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Mansfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Margate	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Market Harborough	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Matlock	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Melton Constable	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Melton Mowbray	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Merthyr Tydfil	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Middlesbrough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Newark	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Newbury	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Newcastle-on-Tyne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Newcastle-u-Lyme	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
New Forest	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Newmarket	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Newport, Mon.	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Northampton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Norwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Nottingham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Nuneaton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Oakham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Oldham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Oxford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Paignton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Peterborough	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Plymouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Pontypridd	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Portsmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Preston	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ramsgate	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Reading	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Redcar	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Redditch	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Reigate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Retford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Ripon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Rochdale	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Rochester	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Rugby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Saffron Walden	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
St. Albans	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
St. Helens	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sawbridgeworth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Saxmundham	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Scarborough	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sevenoaks	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Sheffield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Shrewsbury	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Sittingbourne	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Southampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Southend-on-Sea	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Southport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
South Shields	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stevenage	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Stockport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stockton-on-Tees	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stoke-on-Trent	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stourbridge	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stourport	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Stowmarket	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Stratford-on-Avon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stroud	1/4	1/4	1/4	1/4	1/4	1/4	1/3½	1/-
Sunderland	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Swaffham	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Swansea	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Swindon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Tamworth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Taunton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Thetford	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Torquay	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Totnes	1/4	1/4	1/4	1/4	1/4	1/4	1/3½	1/-
Trowbridge	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Tunbridge Wells	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Uttoxeter	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Wakefield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Walsall	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Walsden	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Warminster	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Warrington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Warwick	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wells (Norfolk)	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Welwyn Gar. City	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
West Bromwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Weston-super-Mare	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Weymouth	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Whitby	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wigan	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Winchester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Windsor	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wisbech	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Wolverhampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Woodbridge	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Worcester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Worksop	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Worthing	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Wrexham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wycombe	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wymondham	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
York	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½

*The rate recognised by the National Association of Plasterers, Granolithic and Cement Workers, as and from the 1st February, 1932, is 1/9½ per hour.

For Building Trade wages in Scotland, see page 579.

CERTIFIED CARPENTERS

ANNUAL DINNER.

The annual dinner of the Incorporated British Institute of Certified Carpenters was held at the Carpenters' Hall, E.C.2, on Saturday, March 19, when Mr. F. O. Keysell occupied the chair. The loyal toasts having been honoured, Mr. J. Hutton Freeman, in proposing the toast of the "Institute of Certified Carpenters," said that he was not a member of the Institute, but he knew a good deal of its workings. The Institute was formed in 1890 and had made good progress, which he was sure was due to the help of such past-presidents as Mr. W. W. Pocock, Sir Banister Fletcher, Mr. Smith, Mr. Wilson, and now Mr. Adams Smith. The Institute had a membership of 875, and every member had worked five years as a carpenter or joiner. The Institute was fostering the fine craft of carpentry and joinery by the lectures and examinations it held.

Mr. F. Adams Smith (President of the Institute), responding to the toast, said the Institute was to be congratulated on having its large membership. At the present time they were meeting with great difficulties, but he did not think they should worry, as work would be coming along. Men in the City had told him that things were much better and the country was now on the up-grade. Carpentry was much in demand to-day. The Institute was constantly receiving applications from students for certificates, and he was sure these certificates were of great use to them, especially when going abroad. Members should pay a visit to the Imperial Institute and see examples of timber grown by the Colonies. Carpentry was a craft in which men could take joy. He had been to the Northern Polytechnic, and some of the work carried out by the students there convinced him that they got joy out of their work.

Mr. George Ayres, in proposing the toast of "The Worshipful Company of Carpenters," said the Company was formed in 1477, and for that reason alone the Institute should be glad to be associated with the Company. The Institute also realised the good work the Carpenters' Company and other City Companies were doing in connection with the City and Guilds examinations.

Responding to the toast, Mr. F. O. Keysell (Master of the Worshipful Company of Carpenters) said business men should realise there were difficult times ahead of us and if we were to maintain our position, we must be willing to experiment and not rest content with the methods of the good old days. The Institute had been going on now for over forty years, and he wished it continuous success.

Mr. Robert Back proposed the toast of the "Guests," which was responded to by Col. French, who said he was pleased with the work the Institute was doing for the City and Guilds and the Worshipful Company also, through Mr. Louis Jacob. The Northern Polytechnic would be exhibiting during May and June at the Alexandra Palace, examples of work carried out by students, and he would like all members of the craft to visit that exhibition and see the work the younger generation were doing.

Empire Timber.

The first of a series dealing with the forest trees and timbers of the British Empire, a treatise on "Some East African Conifers and Leguminosæ" has been published by the Oxford University Press from Amen House, Warwick-square, E.C.4, price 5s. net. The authors are Drs. L. Chalk and J. Burtt Davy and Mr. H. E. Desch, the first two of whom are editors of the series. This series introduces "an important innovation in dealing simultaneously with the systematy of the tree and the anatomical structure of the wood," and provides an accurate knowledge which must be essential as a preliminary to the development of our Empire forest resources.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

MARCH 28.

Wakefield.—Housing.—12 houses at Crofton, 6 houses at Kirkhamgate, 8 houses at Netherton, 12 houses at Sharlston, 8 houses at Walton, for R.D.C. W. E. Massie, E. and S.

MARCH 29.

Dublin.—Additions.—To Christian Brothers schools at North Brunswick-st., for Rev. Brother Murray. J. J. Robinson, architect, 8, Merrion-sq., N., Dublin. Dep. £3 3s.

***Enfield.**—Pavilion.—Whitewebbs Golf Course, for the U.D.C. Clerk, Public Office. Dep. £2 2s.

Invergordon.—Alterations.—At post office, for H.M.O.W. Architect, 122, George-st., Edinburgh. Dep. £1 1s.

Nottingham.—Building.—Extension of Bruce-grove sub-station, for T.C. T. Wallis Gordon, City E. and S. Dep. £2.

Portmadoc.—Houses.—25 State-aided parlour-type houses, together with roads and sewers, etc., at Avenue-rd., for U.D.C. Griffith Morris, incorporated architect and surveyor, High-st. Dep. £2 2s.

Swinay (Salop).—Alterations.—To Post Office, for H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

MARCH 30.

Biore Heath.—Houses.—Three pairs of semi-detached non-parlour type houses at Almington and Loggerheads, for R.D.C. W. L. Hind, architect, Trinity-bldgs., Hanley, Stoke-on-Trent.

Bournemouth.—Alterations.—To Head Post Office, for H.M.O.W., Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

Bristol.—Building.—Builder's and plumber's work connected with the erection of Council school at Marksbury-rd., Bedminster, for T.C. C. F. W. Dening, architect, 28, Orchard-st., College Green. Dep. £2 2s.

Edinburgh.—Cleaning.—Cleaning down and toning stone facework of balcony and public stair leading from North Bridge to Market-st, for T.C. E. J. MacRae, A.R.I.B.A., City Architect.

Leyton.—Baths.—Works in connection with proposed public baths, High-rd., Leyton, E.10, comprising pile foundations, ground floors, two swimming pools and other contingent works in reinforced concrete, for T.C. A. P. Howell, B.E. Dep. £10.

Liverpool.—Houses.—9 tenement dwellings, Kew-st., for T.C. Director of Housing. Dep. £1 1s.

Sheffield.—Houses.—246 non-parlour type on Shiregreen estate: part 3 (building scheme No. 3), for T.C. W. Geo. Davies, F.R.I.B.A., City Architect. Dep. £2.

Sidmouth.—Station.—Proposed fire station, gas showrooms, etc., High-st., for U.D.C. S. Dep. £3 3s.

Wembley.—Repairs.—Alteration, repair and decoration at Vale Farm House, Watford-rd., for U.D.C. C. R. W. Chapman, E. and S. Dep. £1 1s.

MARCH 31.

Andover.—Houses.—In the following parishes: Shipton Bellinger and Upper Clatford, for the R.D.C. Clerk, 31, High-st. Dep. £3.

Birmingham.—Offices.—Head offices and central bank on site fronting to Broad-st., for T.C. T. Cecil Howitt, F.R.I.B.A., Exchange-bldgs., East Nottingham. Dep. £5 5s.

Glasgow.—Alterations at Central Police Chambers, for T.C. D. Stenhouse, T.C.

Hastings.—Extension to Municipal Hospital. B.E., 37, Wellington-sq. Dep. £3 3s.

Horncburch, Essex.—Extension, Baptist Church. —Spalding & Myers, 12, New Court, Lincoln's Inn, W.C.2. Dep. £1 1s.

Huddersfield.—Houses.—3 at junction of Beinwood-rd. with Hawes-av., Quarmby, for C.B. B. E., 1, Peel-st Dep. £1 1s.

Kingston-upon-Hull.—House.—New boiler house and water tower, Mental Hospital, Willerby, for T.C. D. Harvey, A.R.I.B.A., City Architect. Dep. 17s. 6d.

Leeds.—Conveniences.—Underground public conveniences in The Headrow, for T.C. J. E. Acfield, City E.

Maldon (Essex).—Telephone Exchange, for H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

Penygroes.—Houses.—Five non-parlour houses at Penygroes, for Council. R. T. Jones, architect, Midland Bank-chambs., Bangor.

Southampton.—Painting.—Exterior Nos. 1 and 4 to 12a, Brunswick-place. W. Burrough Hill, surveyor to trustees, Hanover-buildings. Southampton. Dep. 10s. 6d.

APRIL 1.

Folkestone.—Housing.—20 non-parlour type on Hill-rd. housing estate, for T.C. E. L. Allman, Deputy B.E. Dep. £2 2s.

Highbury Grove (N.).—Telephone Exchange, for H.M.O.W. Contracts Branch, King Charles st., London, S.W.1. Dep. £1 1s.

Plymouth.—Flats.—(1) 56 flats at Vicarage-rd., St. Budeaux; (2) 3 flats at Moon-st., Plymouth; (3) painting of certain dwellings at North Prospect, Lower Mount Gold, Prince Rock, Vauxhall-st., Elphinstone, and Stonehall; and (4) erection of 14 concrete staircases at How, Looe and Vauxhall-st. flats, Plymouth, for T.C. J. Wibberley, City Engineer and Architect, Sun-bldgs. Dep. £1 1s each.

West Ham.—Hot Water.—And electric light installation at Tollgate School, for the Education Committee. John H. Jacques, 61, West Ham-lane, Stratford, E.15. Dep. £1.

APRIL 2.

Ashburton.—Houses.—16 non-parlour type at Dolbeare-rd., for U.D.C. A. Fallows, S. Dep. £2.

Belfast.—Church.—Completion of St. Peter's Church, Antrim-rd. R. M. Close, architect, 13, Donegall-sq., North. Dep. £2 2s.

Buxton.—Painting.—External painting of Buxton Gardens concert pavilion and corridors, for T.C. F. Langley, B.S.

Consett.—Additions.—To Grove Council school, for Durham E.C. F. Willey, F.R.I.B.A., 34, Old Elvet, Durham.

Glasgow.—Jobbing Works and Materials.—For Statute Labour Department. D. Stenhouse, T.C.

Skipton.—Installation.—Of copper piping at County Poor Law Institution, for West Riding C.C. West Riding Architect, County Hall, Wakefield.

APRIL 4.

Chester.—Alterations, etc.—At Upton Mental Hospital. County Architect, The Castle. Dep. £2 2s.

Doncaster.—Houses.—250 on Intake site, for C.B. R. E. Ford, Housing Surveyor, 3, Priory-pl.

Lewisham, S.E.—Employment Exchange.—For H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Normanton.—Painting.—Exterior of 83 houses on Hanson House estate, Normanton, and 2 park lodges, for U.D.C. S.

Quarry Bank.—Houses.—44 on Saltwells-wood site, off Coppice-lane, for U.D.C. A. Homfray, clerk. Dep. £2 2s.

Rayleigh, Essex.—Public Conveniences.—For U.D.C. Clerk, Council Offices. Dep. £2 2s.

APRIL 5.

Aldershot.—Houses.—In Whyte-av. and Guildford-rd., for the T.C. Town Clerk, Municipal-bldgs. Dep. 10s.

Glasgow.—Jobbing Works and Materials.—For Housing Department. Director of Housing, 20, Trongate, C.1.

Glasgow.—Works.—Jobbing work and materials, for City Improvements Dept. City Improvements Manager, Head Offices, 6/8, Edmund-st.

Leicester.—Employment Exchange.—For H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

Malmesbury.—Houses.—24 non-parlour type, for R.D.C. John C. Wade, S. and E. Dep. £3 3s.

APRIL 6.

Wembley.—Cottages.—54 non-parlour cottages at Perivale-lane, Alperton, for U.D.C. C. R. W. Chapman, E. and S. Dep. £5 5s.

APRIL 7.

Barking.—Houses.—Upney Farm Estate. C. J. Dawson, F.R.I.B.A., Clock House-chams.

APRIL 8.

***Birkenhead.**—New Library.—For the Corporation. Town Clerk, Town Hall. Dep. £3 3s.

Tadcaster.—Houses.—10 houses at Barwick-in-Elmet and construction of sewers, for R.D.C. H. W. Boardman, E. Dep. £2 2s.

Thrybergh.—Installation.—Alterations and extensions to heating installation at Council school, for West Riding E.C. A. Adcock, Divisional Clerk, Education Office, Godstone-rd., Rotherham.

APRIL 9.

Royston.—Houses.—14 bungalow type houses for aged persons on land situate off Station-rd., Royston, together with roads and sewers, for U.D.C. Dyson, Cawthorne & Coles, architects, 25, Regent-st., Barnsley.

APRIL 11.

Tunbridge Wells.—Houses.—110 non-parlour type on Rusthall Grange estate, for T.C. Hugh P. Bishop, B.E. and S., 1 & 2, Calverley-mount. Dep. £5 5s.

APRIL 12.

***Heswall, Cheshire.**—Extension to Telephone Exchange, for H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

APRIL 13.

***Tunbridge Wells.**—Post Office Garage, for H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

APRIL 14.

Essex.—Extensions.—To Severalls mental hospital, Colchester, for Essex and Colchester Mental Hospitals of C.C. Jno. Stuart, F.R.I.B.A., County Architect, County Hall, Chelmsford. Dep. £3 3s.

APRIL 18.

Hucknall.—Houses.—46 non-parlour type on Brookside estate, and 12 small houses for aged persons on Palmer-av. estate, Hucknall, for U.D.C. H. M. Aitchison, Architect and Surveyor. Dep. £2 2s.

APRIL 20.

***Brighton.**—Houses.—On the Whitehawk site, for the Corporation. Town Clerk, Town Hall. Dep. £2 2s.

***Hemel Hempstead.**—Houses—In Runham rd., for the Corporation. Town Clerk, Town Hall. Dep. £5.

Manchester.—Houses.—On the Wythenshawe estate. Housing Director, Town Hall. Dep. £2 (to City Treasurer).

Pontefract.—Adaptation.—Of premises as public elementary school, for T.C. Pennington, Hustler & Taylor, architects, Ropergate.

APRIL 22.

Galway.—Reconstruction.—Of Prospect-hill buildings and conversion of same into County Offices, etc., for C.C. M. J. Kennedy, C.S. Dep. £5 5s.

NO DATE.

Bradford.—Alterations.—To St. Edmund's, Bradford, into nursery school. W. Thornton & Son, F.R.I.B.A., 11, Bond-st., Dewsbury.

Inverness.—Building.—New cubicle pavilion, operating theatre, etc., at Culduthel infectious diseases hospital, for T.C. Alex. F. Mackenzie, F.R.I.B.A., 6, Castle-st., Inverness.

Wimborne and Cranborne.—Houses.—32 additional houses, for R.D.C. M. J. Raymond, clerk.

MATERIALS, etc.

MARCH 28.

King's Lynn.—Tarred Slag.—For T.C. J. C. Mathew, B.E.

Larbert.—Paints, etc.—For Sterling District Mental Hospital. P. Y. Hutton, House Steward.

Tenterden. — Highway Materials. — For T.C. W. L. C. Turner, B.S.

MARCH 29.

Aberdeenshire.—Road Materials.—For C.C. County Road S., 22, Union-terr., Aberdeen.

Barton-upon-Irwell. — Highway Materials. — For R.D.C. E. L. Leeming, S.

Bollington.—Road Materials.—For U.D.C. S. Knight, clerk.

Great Crosby.—Highway Materials.—For U.D.C. J. A. Wright, S.

MARCH 30.

Great Yarmouth.—Granite Chippings.—For C.B. S. P. Thompson, B.E.

Hollingbourne.—Road Materials.—For R.D.C. J. Kitney, Highway S., 33, Earl-st., Maidstone.

Milnrow.—Highway Materials.—For U.D.C. A. S. Whipp, S.

Rhondda.—Bricks, etc.—For Gas and Water Department, of U.D.C. O. Thomas, engineer and manager.

MARCH 31.

Neath.—Highway Materials.—For R.D.C. T. D. Windsor Williams, clerk, 3, New-st.

Southampton.—Broken Granite, etc.—For C.B. B.E., 33-35, French-st.

APRIL 1.

Blean.—Road Material.—For R.D.C. F. A. Ward, S., Herne Common, near Herne Bay.

APRIL 2.

Cairo.—Paints, etc.—For Director of Stores, Department of Public Health, Cairo. Department of Public Health, Cairo.

Clayton-le-Moors. — Highway Materials. — For U.D.C. A. Dodgeon, S.

Dorking.—Road Materials.—For U.D.C. S. S. Gettings, S.

East Ashford.—Highway Materials.—For R.D.C. J. T. Pullen, S., Sevington, Ashford.

Glasgow.—Building Materials, etc.—For Public Health Department. D. Stenhouse, T.C.

Ramsey.—Road Materials.—For U.D.C. R. F. Serjeant, clerk.

APRIL 4.

Edinburgh.—Building Materials, etc.—For Gas Dept. Harry H. Gracie, engineer and manager, 15, Calton-hill, Edinburgh.

APRIL 6.

Hayward's Heath.—Pipes.—233 tons of cast-iron socket and spigot pipes of 5-inch dia., and specials of 5-inch, 4-inch and 3-inch dia., for Mid-Sussex Joint Water Board. F. Martin, engineer, Boltro-rd. Dep. £2 2s.

APRIL 7.

Belfast.—Wood Block Flooring, etc.—For Down County Regional E.C. Castor J. Love, architect, 5, Wellington-place, Belfast.

London. — Building Materials. — For G.W.R. F. R. E. Davis, Secretary, Paddington Station, W.2.

ENGINEERING, IRON AND STEEL.

MARCH 29.

Norton.—Sewerage.—In township of Totley, for R.D.C. S. Dep. £2 2s.

Rye.—Groynes.—Six timber groynes at Winchelsea Beach, Rye Harbour, Sussex, for Rother and Jury's Gut Catchment Board. H. Farrant, Engineer to Board, Watch Bell-chambs.

MARCH 30.

Chester.—Sewage.—Settling tanks, carriers, pipe work, pump house and other appurtenant works at Bumpers-lane sewage works, for T.C. Charles Greenwood, City E. and S. Dep. £2 2s.

MARCH 31.

Hilmarton.—Reconstruction.—Of bridge for Wilts C.C. H. S. Ganderton, C.S., Trowbridge. Dep. £2.

APRIL 5.

Galloway.—Construction.—Of contract No. 7, Clatteringshaws dam, in connection with the Galloway power works, for Water Power Co. Sir Alexander Gibb & Partners, Queen Anne's Lodge, Westminster, London, S.W.1. Dep. £10 10s.

APRIL 14.

Cairo.—Reservoir.—Construction of a third reservoir at Beni Sonef Waterworks, for Ministry of Interior and Local Commissions. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. No. G.X. 11275.)

APRIL 25.

South Africa.—Steelwork.—Structural steelwork for cargo shed at East London, for South African Railways and Harbours Administration. Dept. of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. G.X. 11242.)

ROAD, SEWERAGE, AND WATER WORKS.

MARCH 28.

Edinburgh.—Sewers.—New roads and sewers on Lands of Deanpark and Blinkbonny, for T.C. B.E.

MARCH 30.

Hitchin.—Main.—Laying of 896 yds. of 12-in. c.i. syphon main and contingent works, for U.D.C. A. P. Ruscoe, clerk. Dep. £2 2s.

Merton and Morden.—Roads.—Surfacing carriageway, Green-lane and Martin-way, Merton; constructing footpaths and surfacing with asphalt carpet in Morden Hall-rd.; widening works in Green-lane, Morden; construction of soil sewer in London-Worthing-rd.; surface water culvert in London-Worthing-rd.; water sewer, etc., in Wandle-rd., for U.D.C. G. Jerram, A.M.I.C.E., E. and S.

Tunbridge Wells.—Roads.—Additional roads and sewers in connection with Rusthall Grange housing estate, for T.C. H. P. Bishop, B.E. and S. Dep. £2 2s.

MARCH 31.

Bedworth.—Water Supply.—Provision and laying of approximately 1½ miles of 9-in. dia. spun iron trunk main and appurtenant works, for U.D.C. H. W. Crowther-Green, E. and S. Dep. £3 3s.

Cottingham.—Mains.—Provision and laying of about 2,400 lin. yds. of 6-in., 4-in. and 3-in. cast iron water mains at Cottingham, for U.D.C. John H. Haiste, consulting engineer, Middleton-chambs., Lowgate, Hull. Dep. £1 1s.

Hollingbourne.—Surfacing.—2,228 tons 2 in., and 350 tons ½ in. tarmacadam, and 2,200 barrels of tar or other surface dressing, for R.D.C. J. Kitney, Highway Surveyor.

West Sussex.—Tarring.—Surface tarring of approximately 2,250,000 sq. yds. of county roads with refined tar, for C.C. H. W. Bowen, C.S., Southgate House, Chichester.

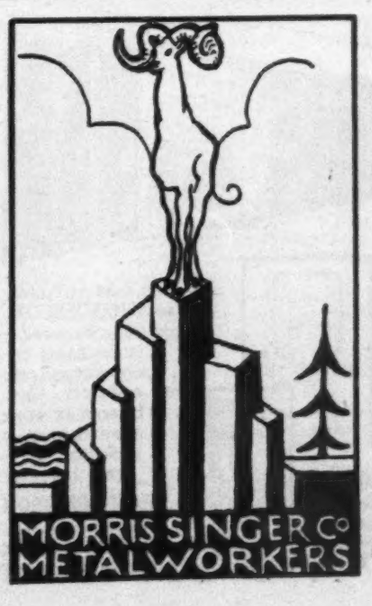
APRIL 2.

Bentley-with-Arksey. — Making-up.—Of certain private streets, for U.D.C. P. C. Woodhall, E. and S. Dep. £1 1s.

Dorking.—Sewers.—Surface water sewers, Chart-lane, Dene-st. and Ansell-rd., for U.D.C. S. S. Gettings, S. Dep. £2 2s.

Haywards Heath.—Mains.—6,500 lin. yds. of 5-in. dia. cast-iron water mains, with valves and other works incidental thereto, for Mid-Sussex Joint Water Board. F. Martin, E., Waterworks Offices, Boltro-rd. Dep. £2 2s.

Pontypridd.—Mains.—Lines of cast-iron water mains between Blaengarw and Pontycymmer, for Mid-Glamorgan Water Board. Thomas & Morgan & Partners, civil engineers, Pontypridd. Dep. £5 5s.



APRIL 4.

Acton.—Roads.—Roads and sewers in connection with proposed flats in Wales Farm-rd., for T.C W. G. Cross, B.E. Dep. £2 2s.

Bognor Regis.—Surfacing.—Surface dressing, etc., of about 80,000 sq. yds. of carriageways, for U.D.C. J. Draper, B.E.

APRIL 6.

Alperton.—Sewerage Work.—At Perivale-lane, for the Wembley U.D.C. Engineer and Surveyor, Council Offices, Wembley. Dep. £2 2s.

Hove. — Making-up. — Mornington-crescent and Rothbury-rd., for T.C. T. R. Humbie, B.S.

Welwyn Garden City.—Roads.—Spraying with a hot bituminous dressing about 127,000 super. yds. of road surface, for U.D.C. Capt. W. E. James, E. and S.

APRIL 7.

Barking.—Road.—For East Ham and Barking by-pass, experimental section, for M.T. Chief Engineer, Roads Department, Ministry of Transport, 7, Whitehall-gdns., S.W.1. Dep. £25.

London.—Paving.—Forming and paving of portion of Beghie-rd., for Greenwich B.C. B.E. and S.

APRIL 11.

Stockport.—Pipes.—Laying and jointing of cast-iron pipes, 30 in. and 12 in. in dia., between the Goyt Valley, Whaley Bridge, and Higher Disley, and between Disley and High-lane, for T.C. G. H. Hill & Sons (Manchester), 40, Kennedy-st., Manchester. Dep. £5 5s.

APRIL 15.

Hordon.—Making-up.—Woodgate-av., Oxford-av., passage at rear of 48-62, Bury-rd., for U.D.C. Percy Whittaker, S.

Public Appointments

MARCH 28.

Chichester.—County Architect required by the West Sussex C.C. Clerk, County Hall.

MARCH 31.

London.—Clerk of Works required by Westminster City Council. Town Clerk, Westminster City Hall, Charing Cross-rd., W.C.2.

APRIL 16.

***Birmingham.**—Clerk of Works, to supervise erection of head offices and central bank. General Manager, Head Offices, 6-8, Edmund-st.

ALL-WELDED STEEL-FRAME BUILDING.

A PARTY of structural engineers, architects and consulting engineers visited the works of Murex Welding Processes, Ltd., at Walthamstow recently to inspect the all-welded factory extension which is now in the course of erection. The arrangements were under the auspices of the British Steelwork Association.

Mr. J. H. Humphryes, President of the British Steelwork Association, in the course of a statement with regard to the prospects of welded steel structures, said he thought it would generally be agreed that welding had proved itself to be as efficient for many purposes as riveting, and when greater experience had been obtained in its application to steel structures it would prove a formidable competitor to the older method of construction. It must be clearly understood, however, that the science of welding was not modern in the sense of being recent, and theoretical; it had been developed to a much greater extent abroad than in this country, not only in the erection of steel-framed buildings and in the strengthening of bridges, but also in applications such as the construction of steel floors, recently developed by the American Institute of Steel Construction. Welding had, however, to break down, by example as well as by precept, the conservatism in our building practice, and Murex Welding Processes, Ltd., was doing great pioneer work and service to the industry by demonstrating in the construction of its own workshops the practicability and economy of welded steel structures.

The Murex factory extension is constructed solely by welding with the exclusion of all bolts and rivets, and is said to be the largest building ever constructed by welding in this country. A great advantage of welded structures is that there is no noise during construction, a great advantage in the case of hospitals, hotels, offices and other buildings in closely populated areas. Another advantage of a welded structure is the great saving in the weight of steelwork, and a consequent reduction in erection costs. The results of varying tests were shown to visitors, one of which was the placing of a test piece in a testing machine, the breaking stress being 31.6 tons per square inch.

PROPOSED NEW BUILDINGS & OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.W.B. for Metropolitan Water Board; Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

Airdrie.—New municipal offices for Corporation. George Arthur & Sons, architects, St. Vincent-st., Glasgow

Ardsley.—U.D.C. to build 34 houses at Hill Top, and 34 houses at Syke-av.

Ashton-under-Lyne.—E.C. propose electricity sub-station corner of Ryecroft-st. and Charges-st. B.E.

Bedford.—R.D.C. Building Plans Committee recommended approval be given to building of 210 houses.

Beverley.—T.C. recommend application to M.H. for approval to 42 three-bedroom non-parlour houses on Cherry Tree-lane site, at £14,275.

Billingham.—Plans being prepared to provide a new wing for Billingham Synthonia Recreation Club.

Bishops Stortford.—U.D.C. approved 12 houses, Thorley Hill estate.

Blackpool.—Co-operative Society, Ltd., Sheppard-st., proposing buildings Devonshire-rd. Plans prepared by resident architect.

Bolton.—Infirmary to be enlarged by erection of a new out-patients' department. Cost, over £20,000. —Greenhalgh & Shaw, Ltd., Halliwell Mills, proposing extensions to mills. Plans proposed by Engineer's department.—F. R. Freeman, L.R.I.B.A., 21, Wood-st., architect for memorial hall in Lonsdale-rd., for Trustees of St. Margaret's Church.

Bournemouth.—T.C. approved: alterations and additions, shops and offices, Lloyds Bank-chams., Old Christchurch-rd., Dodsham & Homer; 6 flats and 6 garages, 12, Branksome Wood-rd., Mrs. F. Faulkner; 5 houses, Corhampton-rd., Mr. F. Holt.

Broughty Ferry.—Corporation to erect new housing scheme at Queen-st. A. J. MacLay, architect, Dundee.

Burntisland.—Housing scheme by Corporation at Ross Point. J. A. Waddell, Burgh Architect.

Burton-on-Trent.—T.C. decided to build 145 houses on Horninglow site, at £66,250.

Buttershaw.—Bradford E.C. urging B. of E. to sanction scheme for conversion of section of Council school into open-air school.

Cannock.—U.D.C. approved: 102 houses, Pye Green-rd., Hednesford, for Council.

Castleford.—Methodist Church Council to acquire site from U.D.C. for church premises.

Cheltenham.—T.C. considered proposal for ice rink on Winter Garden site. J. R. Wilkins, architect, and H. T. Bush submitted plans.

Cheshire.—E.C. propose Council school at Boughton Heath and at Blacon. F. Anstead Browne, F.R.I.B.A., County Architect.

Chester.—Bent's Brewery Co., Ltd., 30, Johnson-st., Liverpool, proposing hotel on Blacon's estate. Plans by J. H. Davies & Sons, architects, Newgate-st.

Chesterfield.—S. Sims & Sons, Ltd., Britannia Works, New Whittington, propose additions to works. Plans by W. A. Derbyshire, architect, 26, Glumangate.

Coalville.—U.D.C. approved: weaving factory, Highfields-st. and St. Saviour's-rd., for Clutson & Kemp, Ltd.

Crafton.—R.D.C. to build 12 houses. Tenders shortly invited

Croydon.—C.B. received Electricity Commissioners sanction to £1,504 for electricity work.—M.H. approved use of Stubbs Mead allotments for electricity purposes, and land in Factory-lane as addition to Highways dept.—Land in Ena-rd. and Church-st. to be used for electricity sub-stations.—Council recommend widening and improvement of Selsdon Park-rd. from Gravel Hill to borough boundary together with other road schemes.—W. A. New, Troy-rd., 4 flats and 2 garages, Troy-rd.; Bethell & Swannell, 16a, John-st., W.C., 10 houses, Devonshire-way; J. Cronk & Sons, Spring Park Farm estate, 4 garages, 4, South-way and 90, Westway; Warner & Watson (Surrey), Ltd., 41, Elm-rd., New Malden, 70 houses, Kynaston-av.; H. Macintosh, East Croydon, addition, St. Peter's Church, St. Peter's-rd.

Dublin.—Following plans for new buildings and works of reconstruction been approved by City Architect:—Shelbourne-park (alterations to stands), National Greyhound Racing Association; Upper Drumcondra-rd. (5 shop-dwellings), W. H. Palmer; Mayor-st. (cattle office), B. & I. Steam Packet Co.

Dundee.—Corporation to erect new offices and garage at Foundery-lane. J. R. McLay, Corporation architect.

Durham.—T.C. approved: T. Coates, 8 houses, rear of Mount Joy.

Eastbourne.—T.C. approved: Lloyds Bank, Ltd. (architect, A. G. Johnson), additions, Lloyds Bank, Terminus-rd.; Mrs. Ockey (architect, F. G. Cooke; builders, J. Rodle, Ltd.), extension to garage, Soldiers' and Sailors' Homes, rear of Upperton-rd.; Vinall's (architects, P. D. Stenham & Son), alterations and additions, 58 & 67, Terminus-rd.; Devonshire Park Co. (Eastbourne), Ltd. (architect, J. Bowley; builders, Compton Estate), alterations to existing bandstand forming dressing rooms, squash rackets court, Devonshire-park.

Eston.—U.D.C. decided that 148 houses on Grangetown garden village estate should be built by direct labour.

Exmouth.—Foreshore Committee of U.D.C. report respecting strengthening of sea wall near pier, recommended that five groynes recommended by engineers be constructed, and surveyor obtain tenders for carrying out work.

Falkland.—Corporation to erect new housing scheme from plans by Burgh Architect.

Feltham.—U.D.C. approved: 3 pairs of semi-detached houses, abutting on Staines-rd., T. Millman, Ltd.; 3 detached houses, Harlington-rd. West, W. J. Drinkwater & Sons.

Folkestone.—T.C. approved: 6 houses, with garages, Wells-rd., Masters & Anslow.

Frome.—U.D.C. approved surveyor's plan for 16 houses on Summer Hill site.

Glasgow.—Plans in hand for sports pavilion extension at Hally-st., Yoker, C. McNair, Architect, 112, Bath-st.; Church of Scotland hall, for St. Michael's, Carnlight, at Eidron-st., J. Aitchison, architect, 170, Hope-st.; reconstruction at 386, Cumberland-st., Weddell & Inglis, architects, 216, Bath-st.; reconstruction at 29, Clevedon-drive, J. Cameron, architect, 64, Waterloo-st.; new Renfrew-lane, H. Barnes, architect, 156, Buccleuch-restaurant, tea rooms, etc., at West Nile-st. and st.; motor lock-up, etc., at Castlemilk-rd., Croftfoot, McTaggart and Mickie, Ltd., architects, Bath-st.; new factory and offices at Killearn-st. junction, Possilpark, W. Whittie, architect, 226 St. Vincent-st.; shops, houses and stores at Mankinganld-rd., for J. Laidlaw & Son, Ltd., Playfair-st., Bridgeton.

Hinderwell.—Village institute to be erected at Runswick-rd.—F. T. Willis & Sons to build shops at Staithes Bank Top.

Holbeck.—Alterations and additions are to be carried out at "Imperial Hotel," Cemetery-rd., for J. Smith's Tadcaster Brewery Co., Ltd. Plans by Bravery Architect, High-st., Tadcaster.

Hollingbourne.—R.D.C. to invite tenders for houses on site at East Farleigh

Horsforth.—U.D.C. approved: alterations, "Fleece Hotel," J. Smith's Brewery Co.; shops, Town-st. for Burras Peake; 11 houses, Bank-av., E. P. Briggs.

Huntingdon.—T.C. resolved that tenders be invited for 187 non-parlour houses, on Park-lane estate.

Hythe.—T.C. approved: conversion of "The Malthouse," High-st., into bonded warehouse, for Mackenson & Co., Ltd.; alterations and additions to Co-operative Society's shops and assembly hall, High-st., for Society.

Kingswood.—Formal sanction for borrowing by U.D.C. of £15,788, for 44 working-class houses at New Cheltenham, been received.

Kirkheaton.—U.D.C. approved: alterations to "Beaumont Arms," for Tetley & Sons, Ltd., and to "Spangled Bull," for Tadcaster Brewery Co., Ltd

London (City).—Corporation agreed to disposal of site of Hutchison-st. area improvement scheme and 29, Middlesex-st., to H. Lotery & Co., Ltd.

London (Greenwich).—L.C.C. recommend £250 for Thames flood prevention works, at Greenwich pier.

London (Hackney).—B.C. approved: lock-up garages, rear 151, Stamford Hill; new garage, workshops, steam roller shed, and stores, at Millfields-rd.; branch baths at Englefield-rd.; 31 houses, Hillside-close estate, Amhurst-pk.; garage and offices, Waterden-rd.—L.C.C. recommend at Mount Pleasant-lane school, schoolkeeper's house.—L.C.C. sanctioned borrowing by B.C. of £2,250 for Graham-rd. depot.

London (Poplar).—B.C. to spend £107 on adaptations and repairs at 159, Bow-rd.—M.H. given formal sanction to borrowing money for new Poplar baths.—Plans to be forwarded to M.H. for new housing scheme at Judkin-st. and Roffey-st., East Ferry-rd. Plans by B.S.—Plans passed: T. G. Waterman & Co., Brewery Works, Three Colt-st., E.14; re-drainage "Bombay Grab," p.h., Bow-rd., E.3.

London (St. Pancras).—L.C.C. sanctioned borrowing by B.C. of £3,600 for Bartholomew-rd. works depot.

London (Stepney).—L.C.C. granted £3,146 for housing purposes, for B.C.

London (Stoke Newington).—B.C. received M.H. sanction to £2,245 for Clissold-rd. swimming baths. —Electricity Commissioners sanctioned £6,821, for sub-station, of which £3,000 to be spent on building.—Plans passed: A. W. Pipe, additions at 71 & 73, Church-st., abutting on Kersley-rd.

London (Wandsworth).—B.C. approved: R. Cowper & Son, (i) convenience, Podmore-rd., Fairfield; (ii) convenience, Putney Lower-common, Putney; W. G. James, 11 houses and garages, Combemartin-rd., Southfield; F. Northeast, block of flats, 82, Kings-av., Clapham South; Express Dairy Co., Ltd., alterations and additions at 203, Streatham High-rd., Streatham.

Lowestoft.—C.B. instructed B.S. to carry out painting work at isolation hospital.—Council recommend scheme for improved fencing of Upper Esplanade, at £800.—Plans passed: G. Gaze, 8 houses, Beccles-road.

Lytham St. Annes.—T.C. approved: E. Heathcote, Church-rd., St. Annes, 3 pairs semi-detached.

Malling.—R.D.C. received M.H. sanction to purchase site at Offham, and invite tenders for 18 cottages on site, and 22 at Addington-rd., Ryarsh.—Plans approved: amended plan for 23 cottages, Snodland, for C. T. Hook & Co., Ltd.

Margate.—T.C. approved: 6 houses, Walton-rd., F. Barton.

Middlesbrough.—T.C. decided to instruct B.S. to prepare plans for 14 A3 type houses, in 7 pairs of semi-detached houses, to complete Acklam-rd. frontage.

Monk Bretton.—Bishop of Wakefield appointed Committee to consider new church on new housing estate.

Newton Abbot.—R.D.C. approved: lay-out Torquay-rd., Kingskerswell, for 27 houses, W. A. Perring & Son.

Norwich.—T.C. recommend that bridge of L. & N.E.R. Co. at Carrow-rd. be improved at £250, with view to improvement of visibility for traffic passing over bridge from Thorpe-rd.

Nottingham.—C. F. Hole, Ltd., succeeded in disposing of Lenton Abbey. Land chiefly consisting of ornamental gardens is to be developed as building estate.

Oswestry.—R.D.C. received sanction from M.H. for borrowing £3,380, for 12 houses at Morda.

Oxford.—T.C. recommend provision of recreation room at Poplars, at £800.—Council also recommend £900 in respect of further building and repairs at Poplars.—Council recommend extension of Market-st. ladies' convenience be proceeded with and application made to M.H. for sanction to loan of £1,500. —Sanction of M.T. been received to completion of work on Oxpens internal by-pass road and bridge, at £11,445.—Minister proposes to direct local inquiry in connection with Barton sewerage scheme. —P.A.C. had before them plans prepared by City Estates Surveyor for provision of day-room accommodation for casuals at Cowley-rd., and adoption proposal costing £270.—Plans passed: alterations to premises, 40 & 42, Between Towns-rd., Oxford Co-operative Society, Ltd., George-st.; additions to "Chequers" public-house, Hollybush-row, Halls' Oxford Brewery, Ltd.; motor-house, rear of 24, Ramsay-rd., Oxford Co-operative Society, Ltd.; 3 pairs of houses, Fern Hill-rd., H. B. Shaw & Sons, Bishop-st., Coventry; 6 houses, White-rd., Cowley, Bayliss Bros., Coventry; 6 pairs of houses, Oliver-rd., R. Gardner & Sons, Westgate-st., Rugby; 3 pairs of houses, Fern Hill-rd., C. H. Smith, Stratford-st., Coventry; lock-up garages, between 206 and 220, Woodstock-rd., C. Cooper.

Paisley.—New offices and other accommodation at Hawkhead, for Robin & Sweenie, 1, Johnstone-st.

Patterdale.—Glenridding Bridge to be built by Westmorland C.C., at £1,399.

*See also List of Contracts, Competitions, etc

Peebles.—Corporation to erect slum clearance scheme of two-, three- and four-apartment houses, 32 in all, at Kingsland. A. H. Swanston, Burgh Architect.

Peterborough.—M.H. held inquiry into application of T.C. for sanction loan of £8,094 excess expenditure incurred on drainage scheme in the city.

Pickering.—U.D.C. to erect houses. Tenders invited.

Portsdown.—U.D.C. approved: P.E. school, for Canon T. M'Donald, P.P., at Carlton-st.

Rawdon.—Plans passed: 6 houses at Peasehill, Handley.

Richmond (Surrey).—T.C. received M.H. sanction to borrowing of £12,000 in respect of purchase of Parkshot offices and children's homes.

Romford.—R.D.C. approved: 14 houses, Melstock-av., Upminster, H. Aldridge; 12 houses, Coniston-av., and 4 in Brackendale-gardens, Upminster, V. G. Selwood & Co.; 6 houses, Coniston-av., Upminster, W. Carter.

Rothesay.—T.C. to obtain land for housing.

Rushall.—R.D.C. prepared to build another 30 houses.

St. Boswells.—Roxburghshire C.C. to erect new housing scheme at Newton-st. G. Sheriff, County Architect, Newton-st., St. Boswells.

Scarborough.—Licensing authorities approved plans for alterations to "Alma Parade Inn" and "Kent Arms," Castlegate.

Scarborough.—T.C. propose to construct pump-room on Spa. Harry W. Smith, B.S.

Settle.—P.C. have requested S. C. Davidson, R.D.C. Surveyor, to prepare plans for reinforced concrete bridge, at Runley.

Shariston.—R.D.C. to build 12 houses. Tenders invited.

Sheffield.—C.E. authorities propose church at Low Shiregreen, to be known as "Children's Church." Architect not yet appointed.

Solihull.—R.D.C. approved: Longmore-lane, 7 garages, South Midland Estates Co., Ltd.; Station-rd. post office, H.M. Post Office; Stratford-rd., extension to factory, Hawkes & Snow; Lyndon-rd., 30 houses, Biddle & Homer, Ltd.

Southend.—Corporation decided to spend £4,900 on extensions to Rochford institution.

Stourbridge.—A. T. Butler, F.R.I.B.A., 31, Priory-st., Dudley, architect for extensions to "Talbot Hotel," in High-st., for Wolverhampton and Dudley Breweries, Ltd., Park Brewery, Wolverhampton.

Stretford.—U.D.C. purchased site in King-st. for public library.

Strood.—R.D.C. approved of additional houses at Higham and Shorne, and further considered question of suitable site for further houses at Meopham.

Sunderland.—Scheme drawn up two years ago for conversion of Ashburne Hall, into school of art been put on urgent list of works by B. of E.

Swansea.—C.B. to invite tenders for three portions of main trunk sewer, Brynmill to Clydach.—Plans passed: alterations and additions off Neath-rd., Llansamlet, for British Legion; 5 houses, Southward-lane, R. H. Davies.—Borough Architect to erect fencing along western boundary of Training College, at £360.—Nine schools are to be painted by Borough Architect.—£360 to be spent on levelling of site at St. John North for sub-station.

Torrington.—T.C. expressed approval of scheme of reconstruction of Chope's Bridge on road between Weare Giffard and Torrington.

Tralee.—Commissioner for Kerry C.C. proposes to raise a loan of £7,149 for completion of construction of County Hall.

Walsall.—T.C. approved plans for public mortuary in Moat-rd., at £2,700. Plans by B.S.

Walsingham.—R.D.C. to negotiate with Workmen's Housing Association for 20 houses at Fakenham.

Walton.—R.D.C. to build 8 houses. Tenders invited.

Warrington.—Managers of St. Augustine's R.C. Church (Rev. J. L. Cullen, P.P.) proposing elementary school for 500 children at Latchford.

Watford.—T.C. approved: 8 houses, Orchard-drive, E. Musbet; addition, 87, 97 and 99 North Western-av., Kempster & Williams; sub-station, 84, Berry-av., Borough Electricity Department.

West Sussex.—B. of E. approved of site for proposed new Council school for juniors and infants in St. James's-rd., Chichester, for C.C.; E.C. to proceed with erection of new school for infants on Lancastrian School site, Chichester. County Architect been instructed to prepare revised sketch plans for building.

Whaley Bridge.—Members of Wesleyan Church propose alterations and additions, and installation of electric light in building. Cost, £1,500.

Whitehaven.—Parochial Council propose parish hall for St. James's Church.

Whitwood Mere.—Bishop of Wakefield raising funds for church on Lumley Hill housing estate.

Woking.—Town Planning Committee raised no objection to public hall on corner of residential area in Guildford-rd., immediately south of York-rd.

Wrexham.—Lockwood, Abercrombie & Saxon, Cathedral-chams., Chester, are architects for 70 houses on Acton Park estate for T.C.

Wrexham.—T.C. propose extensions of King-st refreshment rooms, at £1,270.

Yeovil.—T.C. accepted, subject to M.H. sanction, tender amounting to £2,961 for 10 houses on Jubilee-cottage side of Preston.

Yiewsley-Drayton.—U.D.C. recommend Middlesex E.C. be urged to proceed forthwith with building of proposed new school at Royal-lane.

York.—Tenders being invited for linen store at The Retreat.

CLASSIFICATION OF SLATES

SULPHURIC ACID TEST.

We have received the following particulars of the sulphuric acid test for the classification of slates from the Building Research Station, Watford:—

The conditions under which the test is performed, and the criteria employed for judging the quality of a slate, were determined as a result of an examination carried out on a large number of slates of known reputation and durability. The specimens are classified as Excellent, Good or Inferior, according to their behaviour. The test is performed as follows:—Specimens measuring 2 in. by 2 in. are prepared with honed edges, and separate specimens are immersed in solution of sulphuric acid, viz., 40 per cent. and 20 per cent., for a period of ten days, examination being made daily. At the end of the period the specimens are rinsed with water and allowed to dry out in the laboratory. Slates which contain much accessible limestone will show effervescence of carbon dioxide, usually in the earlier stages, and some will evolve sulphuretted hydrogen; during the immersion and the final drying out, varied effects, comparable with those occurring during normal weathering, may be exhibited, viz., lamination along the edges (the thickness sometimes increasing several times), softening, flaking or blistering of the surfaces, and, in very extreme cases, total destruction to a powder.

The criteria adopted for discrimination between the three classes are as follows:—

(1) No visible change of any sort over ten days in either strength of acid	indicates Excellent.
(2) Lamination in the higher strength of acid, but no change in the lower strength over ten days	indicates Good.
(3) Lamination in both strengths within ten days	indicates Inferior.

NEW CINEMAS

Birmingham (Solihull).—Plans, prepared by Messrs. H. G. Bradley and Clark, 10a, Temple-row, Birmingham, for a cinema at Warwick-road, for the Olton Cinema Co., Ltd., have been passed by the Solihull R.D.C.

Eastbourne.—Messrs. P. D. Stonham and Son, architects, Hadley House, Upperton-road, Eastbourne, have submitted plans to the Eastbourne Corporation for the erection of a cinema in Langley-road, on behalf of a local syndicate.

Elgin, N.B.—Mr Alister MacDonald, A.R.I.B.A., 13, Queen Anne's-gate, S.W.1, has been appointed architect for a large new playhouse which is to be erected at Elgin by Elgin Picture House Company. The scheme, it is learnt, is in its early stages.

Great Britain.—A scheme for erecting a very large number of standardised cinemas throughout the country has been announced by Mr. A. S. Woodger. Each will seat 800, or 1,500 if a balcony be introduced. Messrs. Leathart and Granger, FF.R.I.B.A., 7, John-street, Adelphi, W.C.2, have been appointed architects. Each cinema is to cost £12,000 approximately

Kingston.—Messrs. Kirk and Kirk, Ltd., 287, Upper Richmond-road, Putney, S.W.15. have obtained the building contract for the erection of the new super cinema proposed in the High-street, Kingston-on-Thames, for Kingston Picture House, Ltd. The new building will hold 2,000 persons, and plans have been prepared by Col. J. E. Adamson, L.R.I.B.A., 56, Victoria-street, S.W.1, in conjunction with Messrs. Marshall and Tweedy, FF.R.I.B.A., 4, Cavendish-place, W.1.

Leeds.—Messrs. Kitson, Parish and Ledgard and Pyman, FF.R.I.B.A., Lloyds Bank-chambers, Vicars-lane, are the architects for structural alterations to the Grand Theatre, on New Briggate, and for alterations proposed to the Assembly Rooms Picture House.

Manchester (Ardwick).—Plans for alterations to the Ardwick Picture Theatre, Stockport-road, have been passed by the U.D.C. The owners are Associated British Cinemas, Heddon House, Regent-street, W.1, whose chief architect is Mr. W. R. Glen.

Oxford.—A new theatre and cinema is to be erected on the northern side of the city, and the plans include the provision of a ballroom and up-to-date restaurant. Plans are now being prepared for this scheme by Sir John Burnet, Tait and Lorne, 1, Montague-place, W.C.1.

Salford.—Mr. P. Cummings, A.R.I.B.A., 27, King-street West, Manchester, is architect for a cinema, "The Broadway," to be erected at Leaf-square, Pendleton, Salford. The estimated cost is £40,000. A café is included in the scheme.

EARTHQUAKES AND BUILDINGS

By CHARLES DAVISON, Sc.D., F.G.S.

The Takeda Building is situated in Nihonbasi-street in Tokio. It is made of reinforced concrete, and is comparatively long. Besides the underground floor, there are nine floors with a total height of 99 ft. on a site of 2,915 sq. ft. In order to study its vibrations during earthquakes and at other times, Mr. T. Fukutomi* installed three seismographs of similar construction on different floors from April 26 to May 25, 1931, the building then being nearly finished. At first, they were placed on the underground, the fourth and the ninth floors. On May 16 the instrument on the fourth floor was transferred to the sixth. During the month of observation, four sensible, 35 non-sensible, and five distant earthquakes were recorded.

When there are no earthquakes the whole structure vibrates with a period of about 0.4 sec. in the direction of N. 70 deg. E. The amplitudes of the vibrations on the ninth, sixth, fourth and underground floors are in the ratios of 100 : 84 : 67 : 6. This seems to suggest, as Mr. Fukutomi remarks, that the structure vibrates as a whole, with the upper end free and the other end, perhaps at the level of its base, fixed. There is clearly a diurnal period in the amplitude of the movement, the maximum being at 3 or 4 p.m. and the minimum at 2 or 4 a.m. It was noticed, however, that the vibrations became larger when tramcars passed a neighbouring junction, and it is thus possible that this diurnal period may be the result of traffic.

The average maximum acceleration of the principal motion in four sensible earthquakes was calculated, the ratios of the accelerations (that is, of intensities) on the underground, fourth, sixth, and ninth floors being as 100 : 236 : 382 : 415. One of the most interesting results is that on the underground floor the direction of vibration of the building is nearly at right angles to the line joining it to the earthquake-centre, whereas, on the ninth floor, it is nearly coincident with the direction of the free vibration, suggesting that the structure oscillates at the foot in the direction of the forced vibration, but at the top in the direction of the free vibration.

One morning, bendings of the structure due to strong winds were observed, the tilt of the ninth floor amounting to about 6½ seconds. There was also noticed a small daily change in the inclination of the floor, probably caused by the expansion of the south wall due to sunshine.

*Earthquake Research Institute Bulletin, vol. 9, 1931, pp. 485-507.

PRICES CURRENT OF MATERIALS.*

Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.

[PRINCIPAL CHANGES OF THE WEEK.—Sheet, Pipe and old Lead drops by 10s. per ton.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	4 3 6
Second Hard Stocks	3 18 6

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at King's Cross	2 11 3	Best Blue Pressed Staffs	9 5 0
Do., grooved for Plaster	2 13 3	Do. Bullnose	9 15 0
Do., Bullnose	2 5 3	Blue Wire Cuts	7 5 0
White Midhurst Facing Bricks (delivered London site)			5 0 0

Best Stourbridge Fire Bricks:—

2½ in.	8 11 0	3 in.	10 3 0

GLAZED BRICKS—

Best White Ivory and Salt Glazed Stretcher	21 0 0	D'ble Str'tch'rs	29 10 0
		D'ble Headers	26 10 0
Headers	20 10 0	One Side and two Ends	30 10 0
Quoins, Bullnose and 4½ in.		Two Sides and one End	31 10 0
Flats	27 10 0	Splays, and Squints	28 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours Hard Glaze £5 10s. extra over white.

BREEZE CONCRETE SLABS.

Delivered London.

	s. d.		s. d.
2 in. per yd. super	1 11	3 in. per yd. super	2 9
2½ in. „ „	2 4	4 in. „	3 6

Thames Ballast	8 0 per yd	delivered 2 miles radius Paddington
Fit Sand	11 0 „ „	
Thames Sand	11 0 „ „	
Best Washed Sand	11 0 „ „	
½ in. Shingle for Ferro-Concrete	8 6 „ „	
¼ in.	11 0 „ „	
¾ in. Broken Brick	10 6 „ „	
Pan Breze	8 0 „ „	

Per ton delivered in London area in full van loads.

Best Portland Cement. British Standard Specification. Test

In Jute Sacks (11 to ton)	£2 4 9 to	£2 6 9
In Free Paper Bags (20 to ton)	2 6 0 to	2 8 0

Alongside Vauxhall in 80 Ton Lots

Jute Sacks (11 to ton)	1 17 9
Free Paper Bags (20 to ton)	1 19 0
Ferrocrete per ton extra on above	0 7 6
Vibrocrete per ton extra on above	0 7 6
Lightning Brand Aluminous Cement in Jute Sacks (20 to ton)	5 2 9 to 5 8 3

NOTE.—Jute Sacks are charged 1s. 6d. each and credited 1s. 6d. each nett if returned in good condition within three months carriage paid.

Super Cement (Waterproof) Paper Bags free	3 16 0
Ciment Fondu (F.O.R. Works)	4 15 0
Roman Cement	6 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
„ „ Pink	5 10 0
Plaste, Coarse, Pink	3 0 0
„ White	3 12 6
„ Fine	4 12 0
Staphte, Coarse	3 9 0
„ Finish	3 17 0
Grey Stone Lime	2 10 9
Chalk Lime	2 10 9
Best Ground Blue Lias Lime	1 17 6
Hair	per cwt. 2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s 6d. if returned in good condition within three months carr. pd.

Stourbridge Fireclay in n'cks 37s. 9d. per ton at rly. dp.

STONE.

	s. d.
BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 10
BERE STONE—RANDOM BLOCK— Free on rail at Seaton Station per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. per ft. cube	3 11

Selected approximate size one way, 1d. per cubic foot extra; selected approximately three sizes or for special work, 3d. per cubic foot extra.

PORTLAND STONE—

Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4½
Do. do. delivered on road wagons at above stations, per ft. cube	4 5½

White basebed, 3d. per ft. cube extra.

NOTE.—1d. per ft. cube extra for every foot over 20 ft. average, and ½d. beyond 30 ft.

CHILMARK—RANDOM BLOCK— At Nine Elms, per ft. cube	3 11

HOPTON-WOOD STONE— F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over F. ft. cb.	s. d. 14 0
Sawn two sides „	22 6
Sawn three or four sides „	27 0

YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station, London

6 in. sawn two sides landings to sides (under 30 ft. super) Per ft. super	5 6
6 in. rubbed two sides, ditto	6 0
3 in. sawn two sides slabs (random sizes)	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes)	1 6½
1½ in. to 2 in. ditto, ditto	1 3½

HARD YORK—

	s. d.
Delivered at any Goods Station, London.	
Scappied random blocks Per ft. cube	6 6
4 in. sawn two sides landing to sizes (under 40 ft. super) Per ft. super	5 1½
6 in. rubbed two sides, ditto „	6 1½
4 in. sawn two sides slabs (random sizes „	3 1½
3 in. ditto ditto „	2 8
2 in. self-faced random flags Per yd. super	8 0

CAST STONE

Delivered in London area in full van loads, per ft. cube: Plain, 8s. 6d.; Moulded, 9s. 6d.; Cills, 10s. 0d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 x 11	£24 10	3 x 6	£17 0
4 x 9	20 0	3 x 11	19 10
4 x 8	20 0	2 x 11	19 10
4 x 7	18 0	3 x 9	19 10
3 x 8	18 0	2½ x 9	19 10
3 x 7	18 0	3 x 4½	17 10
2½ x 7	18 0	3 x 4	17 10

PLANED BOARDS.

1 x 11	£22 10	1 x 9	£21 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
⅝	16/-	1¼	25/-
¾	17/-	1½	27/6
⅞	20/-		

TONGUED AND GROOVED FLOORING

Inches	per sq.
1	21/-
1¼	26/-
1½	27/6

Ins.	BATTENS.	s.	d.
¾ x 2	per 100 ft.	2	0

MATCHING (BEST).

Inches.	per sq.
½	15/-
¾	16/6
1	20/-

	SAWN LATHS.	s.	d.
Per bundle		2	3

1 INCH AND UP THICK.

Average price for prime quality.

	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 15 0
Dry American and/or Japanese Figured Oak, per ft. cube	0 12 0
Dry American and/or Japanese plain Oak, per ft. cube	0 10 0
Dry sq. edged Honduras Mahogany, per ft. cube	0 14 0
Dry log-cut Honduras Mahogany, per ft. cube	0 16 0
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 0
Best Scotch Glue, per cwt.	£4 10 0 to —
Liquid Glue, per cwt.	4 7 0 to 5 10 0

SLATES

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	30 0 0	18 by 10	16 10 0
22 by 12	26 10 0	18 by 9	14 12 6
22 by 11	24 10 0	16 by 10	14 5 0
20 by 12	24 0 0	16 by 8	11 0 0
20 by 10	20 2 6		

TILES

Delivered at London rate stations in full truck loads of not less than 6 tons.

	Per 1,000. f.o.r. London.
Best machine-made tiles from Broseley or Staffordshire district	£4 10 0
ditto hand-made ditto	5 3 6
Ornament 1 ditto	5 8 6
Hip and valley tiles per dozen { Hand-made	0 9 6
{ Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

R.S. Joists, cut and fitted	£11 0 0
Plain Compound Girders	12 0 0
„ Stanchions	15 0 0
In Roof Work	18 0 0

MILD STEEL ROUNDS.—To London Station, per ton

Diameter.	£ s. d.	Diameter.	£ s. d.
½ in.	12 0 0	⅝ in. to ¾ in.	10 15 0
⅜ in.	11 0 0	⅞ in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—

Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Standard Wrot. Mild Steel Tubes and Tubulars Sizes ⅛in. to 6in.	Genuine Wrot. (Puddled) Iron Tubes and Tubulars Sizes ⅛in. to 6in.	Standard Fittings Sizes ⅛in. to 6in.	Standard Flanges Sizes ⅛in. to 6in.
	%	%	%	%
Gas	65	52½	57½	70
Water	61½	48½	52½	65
Steam	57½	45	47½	60
Galv. gas	52½	40	47½	60
Galv. water	47½	35	42½	55
Galv. steam	42½	30	37½	50

C.I. HALF-ROUND GUTTERS—London Prices ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	11d.	1/5	5d.
3½ in.	11½d.	1/7	5d.
4 in.	1/-	1/9	5d.
4½ in.	1/1½	2/-	6d.
5 in.	1/3	2/2	8d.

O.G. GUTTERS.

3 in.	1/1	1/11	5d.
3½ in.	1/2	1/11	5d.
4 in.	1/2½	2/-	5d.
4½ in.	1/4	2/4	6d.
5 in.	1/6½	2/8	8d.

RAIN WATER PIPES, &c.

Per yd. in 6 ft.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in.	1/3½	1/9	2/7
2½ in.	1/4½	2/-	3/1
3 in.	1/8½	2/6	3/9
3½ in.	2/1½	3/-	4/4
4 in.	2/5	3/7	5/3

Connections—50 per cent. off above prices.
Tonnage allowance—4 ton lots, 5 per cent.
2 ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices ex Works

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6 ft.	1 11	1 6½	1 10½
2½ in. „	2 3½	1 8½	2 4
3 in. „	2 4½	1 10½	2 9½
3½ in. „	2 7	2 4	3 3
4 in. „	2 11	2 7½	3 9

I.C.C. COATED DRAIN PIPES—London Prices ex Works

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
3in. per yd. in 9ft. lengths	3 4	4 3	6 6
	cwt. qr. lbs.		
4in. „	1 1 20	4 7	5 2 8 10
5in. „	1 2 22	6 0	9 0 14 3
6in. „	2 0 6	6 8	10 11 16 1

Gaskin for jointing 41/- per cwt.

IRON—	Per ton in London. £ s. d.		£ s. d.
Common bars	10 10 0	to	11 0 0
Staffordshire Crown Bars Good merchant quality	10 15 0	to	11 10 0
Staffordshire Marked Bars	14 0 0	...	15 0 0
Mild Steel Bars	9 10 0	...	10 0 0
Steel Bars, Ferro-Concrete quality, basis price	8 0 0	...	9 0 0
Hoop iron, basis price	11 0 0	...	12 0 0
„ Galvanised	27 0 0	...	28 0 0
Soft Steel Sheets, Black— Ordinary sizes, to 20 g.	11 0 0	...	11 10 0
„ „ „ 24 g.	12 0 0	...	13 0 0
„ „ „ 26 g.	14 0 0	...	15 0 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality— Ordinary sizes, 6 ft. by 2 ft to 3 ft. to 20 g.	13 10 0	...	14 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	14 10 0	...	15 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	17 10 0	...	18 10 0

No. 1 quality £4 per ton extra.

Flat and Galvanised Corrugated Sheets—

Ordinary sizes 6 ft. to 9 ft. to 20 g.	13 0 0	...	14 0 0
Ordinary sizes 6 ft. to 9 ft. to 22 g. and 24 g.	14 10 0	...	15 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	16 10 0	...	17 10 0

Sheets Galvanised Flat, Best quality—

Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	18 0 0	...	19 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	20 0 0	...	22 0 0
Best Soft Steel Sheets, 26 g.	21 10 0	...	23 0 0
Cut Nails, 3 in. to 6 in.	15 0 0	...	16 0 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

	s. d.
Seamless Copper tubes (basis) per lb.	0 9½
Strong sheet „	0 10
Thin „	0 11
Copper nails „	1 0
Copper wire „	0 11

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	176/-	300/-	588/- per list

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per list

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per list

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1½ in.	1¾ in.	2 in.	3 in.
1 in. P. traps	33/-	41/-	58/-	101/- per doz.
1 in. S. traps	35/-	45/-	66/-	126/- „

TIN.—English Ingots, 1/7 per lb. SOLDER.—Plumber's 9d., Tinmen's 10d., Blowpipe 11d. per lb.

*The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the average prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—(*cont.*)

LEAD, &c.

(Delivered in London.)	£	s.	d.
Lead—Sheet, English, 4 lb. and up	22	0	0
Pipe in coils	22	10	0
Soil pipe	25	10	0
Compo pipe	26	0	0

Note.—Country delivery, 20s. per ton extra; lots under 3 cwt. 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes 5s. cwt. extra.

Old lead, ex London area, at Mills .....per ton £12 0 0

PAINTS, &c.

	£	s.	d.
Raw Linseed Oil, in pipes ..... per gallon ...	0	1	11
" " " in barrels ... " ...	0	2	1
" " " in drums ... " ...	0	2	4
Boiled " " in barrels ... " ...	0	2	5
" " " in drums ... " ...	0	2	7
Turpentine in barrels ..... " ...	0	4	10
" in drums (10 galls.) " ...	0	5	0
Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks.)	47	10	0

Extra for 1-cwt. kegs over 5-cwt. casks is 5/9 cwt.

Genuine White Lead Paint.

"Father Thames." "Nine Elms," "Park." "Supremus." "St. Paul's." "Morganswyte." "Polacco." "J" Brand, and other best brands (in 14-lb. tins) not less than 5 cwt. lots. per ton delivered ...	£	s.	d.
	64	10	0
Red Lead, Dry (packages extra) ... per ton	34	0	0
Best Linseed Oil Putty ..... per cwt.	0	13	6
Size. XD quality .....fkn.	0	3	0

GLASS.

English sheet glass in crates of stock sizes.

Per ft.		Per ft.	
15 oz. fourths ...	2½d.	32 oz. fourths	7½d.
15 " thirds ...	3d.	32 " thirds.....	9½d.
21 " fourths ...	3½d.	Obscured Sheet, 15 oz. ...	3½d.
21 " thirds ...	4½d.	" " 21 oz. ...	4½d.
26 " fourths ...	4½d.	Fluted, 15 oz. 7d., 21 oz....	9½d.
26 " thirds ...	7½d.	Em'lled, 15 oz. 4½d., 21 oz.	6d.

Extra price according to size and substance for squares cut from stock.

English rolled plate in crates of stock sizes.

	Per ft.
Rolled plate	4½d.
Rough rolled	5½d.
Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White	5½d.
Ditto, tinted	8d.
Rolled Sheet	4½d.
White Rolled Cathedral	4½d.
Tinted do.	6½d.

Cast plate is same price as rough rolled.

"VITA" GLASS. Per foot.	s.	d.
Clear sheet—not exceeding 1 foot	1	0
Do. do. 2 feet.....	1	3
Do. over 2 feet	1	9
Polished plate—not exceeding 1 foot	1	6
Do. not exceeding 2 feet.....	3	0
Cathedral—not exceeding 1 foot	1	0
Do. larger sizes	1	6
Horticultural—for greenhouses, etc. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1	0
3/16 in. Wired Georgian Design. Sizes up to 108 inches long by up to 24 inches wide.....	2	6

VARNISHES, &c.

Per Gallon.		£	s.	d.
Oak Varnish	Outside	0	14	0
Fine ditto	ditto	0	16	0
Fine Copal.....	ditto	0	18	0
Pale Copal.....	ditto	1	0	0
Pale Opal Carriage	ditto	1	4	0
Best ditto	ditto	1	12	0
Floor Varnish	Inside	0	18	0
Fine Pale Paper	ditto	0	18	0
Fine Copal Cabinet	ditto	1	2	0
Fine Copal Flatting.....	ditto	1	0	0
Hard Drying Oak	ditto	0	18	6
Fine Hard Drying Oak	ditto	0	19	6
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	12	6
Best ditto	ditto	1	2	6
Best Japan Gold Size.....		0	12	0
Best Black Japan		0	10	0
Oak and Mahogany Stain (water).....		0	12	6
Brunswick Black		0	7	0
Berlin Black		0	14	0
Knotting (patent)		1	5	0
French and Brush Polish		0	17	0
Liquid Dryers in Terebene		0	9	0
Cutrass Black Enamel		0	7	0

Insulated Wall Board : Opportunity in U.S.A.

We are informed by the Department of Overseas Trade that a firm of New York merchants are desirous of establishing connections with United Kingdom manufacturers of sound-absorbing materials suitable for walls or ceilings. The name of the firm referred to may be obtained on application to the Department of Overseas Trade, 35, Old Queen-street, London, S.W.1. The country and reference number 227 should be quoted.

NEW BUILDINGS IN SCOTLAND

Buckie.—Swimming Pool.—The Town Council have decided to construct a bathing and swimming pool on the beach at Strathlene, 158 ft. long by 90 ft. wide.

Campbeltown.—Housing.—The T.C. has approved plans for twenty-six houses of three and four apartments to be erected on the site of Kinloch distillery. Messrs. James Thomson, Airdrie, are the architects.

Dundee.—Buildings.—Plans and sections of proposed new buildings, etc., have been lodged at the office of the City Engineer :—Broughty Ferry-road, temporary pavilion, for East End Sports Club; Mr. J. Johnston, architect, 32, Bank-street. Nelson-street, additions to clinic, for the T.C. St. Roque's-lane, w.c.s, for Messrs. John Rattray and Son; Mr. J. Johnston, architect. South Ward-road, alterations, for Messrs. Jobsons, Ltd.

Galloway.—Improvements.—A contract for the construction of hydro-electric works in the South-West of Scotland has been placed by the Galloway Water Power Company with an Edinburgh contractor, Mr. A. M. Carmichael. It is understood that the figure for the contract is in the neighbourhood of £300,000.

Stranraer. — Houses. — Another housing scheme for 40 houses has been adopted by the T.C.

HOUSING PROGRESS IN SCOTLAND

The following figures show the progress that has been made in State-aided housing schemes in Scotland to February 29, 1932 :—

	Completed.	Under construction.
1919 Act	25,129	—
do. (by public utility societies)	421	—
Private subsidy schemes (1919 Additional Powers Act)	2,324	—
Slum clearance schemes ...	14,584	1,012
1923 Act :—		
By local authorities ...	4,034	—
By private enterprise ...	21,301	2,601
By public utility societies	80	—
1924 Act :—		
By local authorities ...	55,076	5,708
By private enterprise ...	3,598	652
By public utility societies	127	16
1930 Act :—		
By local authorities ...	757	3,715
Unallocated houses... ...	—	530
Demonstration houses ...	17	--
Steel houses erected on behalf of Government by Scottish National Housing Company	2,552	—
	130,000	14,234

PATENTS

APPLICATIONS PUBLISHED.

365,616.—W. W. Triggs (C. A. Dunham Co., Ltd.) : Heating systems for buildings.

365,593.—T. C. Townley : Construction of tunnels.

365,536.—M. Shikata : Method and apparatus for manufacturing cork-board substitute and artificial lumber.

365,598.—A. C. Hawkins : Dies for use in the manufacture of tiles.

365,545.—S. R. Parkes : Means for connecting together tubes for use, more particularly in scaffolding.

365,638.—H. A. B. Marsh : Hard tennis courts and pavings.

365,671.—Sir E. Airey : Concrete construction for floors for buildings.

365,683.—A. Kosik : Pipe joints.

365,751.—C. Wrede : Parquet floors.

365,805.—J. W. E. Norman : Conduits for drainage purposes.

365,829.—J. B. Lane : Wall nails.

365,831.—W. E. Wilson : Moulding and like wood-working machines.

365,857.—E. Klein and O. Schreiber : Method of raising horizontally-produced building-walls.

365,859.—J. Wheel : Supports for ground-floor joists.

365,905.—R. Croquet : Machines for working marble.

Note.—Period for opposition expires April 3, 1932.

NEW COMPANIES

The particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 and 117, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

E. Berman, Ltd. (263,158). Registered March 3. Builders and contractors. At 29, Oswald-road, Scunthorpe. Nominal capital, £500.

L. Hall (Edmonton), Ltd. (263,306). Registered March 7. Timber, door and plywood importer and distributor, etc. Nominal capital, £120,000. W. F. Hall, "Raumo," Broad-walk, Snaresbrook, E.18.

Bristol Piping Co., Ltd. (263,091). Registered March 1. Manufacturer of flanged piping, etc. At King-street, Bedminster, Bristol. Nominal capital, £1,100.

Alpha Building Corporation, Ltd. (263,089). Registered March 1. Builders, etc. Nominal capital, £100. Miss H. M. Tarpey, 24, Coombe-road, Handsworth, Birmingham.

Litcol Estates, Ltd. (263,212). Registered March 4. Construct and maintain sewers, roads, buildings, etc. Nominal capital, £16,000. D. S. Middleton, 55, Corfton-road, Ealing, W.5.

M. E. Williams, Ltd. (263,213). Registered March 4. 27/9, Kirkdale-vale, Kirkdale, Liverpool. Builders' material merchant. Nominal capital, £1,000.

BUILDING TRADE WAGES IN SCOTLAND*

Following are grade rates authorised by the Scottish N.J.C. for Building Industry. The bricklayers in the Glasgow district have ½d. per hour extra. It should be noted that plasterers and painters who are not parties to the Scottish N.J.C. pay higher wages of 1d. and ½d. per hour extra respectively. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classifications ...	A	A¹	A²	A³	B	B¹	B²	B³
Craftsmen	1/6½	1/6	1/5½	1/5	1/4½	1/4	1/3½	1/3
Labourers	1/2	1/1½	1/1½	1/0½	1/0½	1/-	/11½	/11½

Aberdeen	A	Dundee	A	Hawick	A²	Perth	A
Airdrie	A	Dunfermline	A	Helensburgh	A	Perthshire	A³
Alexandria	A	Duncon	A	Inverness	B	Peterhead	A³
Arbroath	A³	East Lothian	A	Kilmarnock	A	Renfrewshire	A
Ayrshire	A	Edinburgh	A	Kincardineshire	A³	Rothesay	A
Bathgate	A	Falkirk	A	Kinross-shire	A	Roxburghshire	A³
Bo'ness	A	Forfarshire	A³	Kirkcaldy	A	St. Andrews	A
Broughty Ferry	A	Fort William	A	Lanarkshire	A	Selkirkshire	A³
Clackmannanshire	A	Galashiels	A³	Leith	A	Stirling	A
Coatbridge	A	Glasgow	A	Midlothian	A	Stirlingshire, West	A³
Dumbartonshire	A	Greenock	A	Motherwell	A	West Lothian	A
Dumfries	A³	Hamilton	A	Peeblesshire	A³	Wishaw	A

* The information given in this table is copyright. The rates of wages in various towns in England and Wales are given on page 573.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	9	9
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	4
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	27	0
Add if in underpinning in short lengths	" "	6	0
Add if in floors 6 in. thick	" "	2	6
Add if in beams	" "	3	0
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	"	2	0

BRICKLAYER.

		£	s.	d.
Reduced brickwork in fine mortar and Fletton bricks	per rod	20	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	5	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	1½

POINTING.

		s.	d.
Neat flat struck or weathered joint		0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork:—			
Fair external in half brick rings	" "	0	10
Axed in stocks	" "	0	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement		0	1
Setting ordinary register grates and stoves	each	1	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks		4	15

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarte -inch vertical damp course	" "	9	6
Three-quarter-inch on flats in two thicknesses	" "	6	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	0

MASON.

		s.	d.
York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Beer stone and all labour fixed	" "	15	0
Portland stone fixed	" "	20	0
Chilmark stone fixed complete	" "	17	6

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	4	3
Do. joists	" "	4	9
Do. roofs, floors and partitions	" "	5	3
Do. trusses	"	7	9

		¾"	1"	1½"	2"
Deal rough close boarding	per sq.	33/6	38/-	43/-	70/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	0	9
Centre for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.		¾"	1"	1½"	1¾"
Deal-edges shot	per sq.	—	42/6	50/-	57/6
Do. tongued and grooved	"	—	47/-	56/-	64/-
Do. matchings	"	44/-	49/-	—	—
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/-	2/6

SASHES AND FRAMES

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights: average size	"	3	9

DOORS		1½"	1¾"	2"
Two-panel square framed	per ft. sup.	2/1	2/3	2/5
Four-panel Do.	"	2/4	2/6	2/9
Two-panel moulded both sides	"	2/6	2/9	2/11
Four-panel Do. Do.	"	2/9	2/11	3/2

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	"	1/4	1/6	1/9
Add if cross-tongued		2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail average, 3 in. × 3 in.	" "	6	0
Add if ramped	" "	12	0
Add if wreathed	" "	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	1 1½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	15	3
Plain compound girders	"	18	0
Do. stanchions	"	20	9
In roofwork	"	20	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/4	1/7	1/9	2/-
Ogee Do. Do.	"	1/6	1/9	2/3	2/9
Rain-water pipes with ears	"	1/6	2/4	—	—
Extra for shoes and bends	each	3/4	4/11	—	—
Do. stopped ends	"	1/6	1/10	2/9	3/3
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	40	0
Do. Do. in flats	"	39	0
Extra labour and solder in coated cesspools	each	6	9
Welt joint	per ft. run	0	6
Soldered seam	" "	1	3
Copper nailing	"	0	3

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	1/1	1/7	1/10	3/-	3/6	—
Do. service	"	1/6	2/-	2/5	3/6	—	—
Do. soil	"	—	—	—	—	—	6/-
Bends in lead pipe	each	—	—	—	—	3/-	6/6
Soldered stop ends	"	1/-	1/4	1/9	2/6	3/2	—
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/6	3/-	3/6	4/4	5/6	7/9
Lead traps and cleaning screws	"	—	—	—	12/7	17/6	—
Bib cocks and joints	"	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	"	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	3
Do. Do. Sirapite	" "	2	6
Do. Do. Keen's	" "	3	6
Add saw lathing	"	1	7
Add metal lathing		2	6
(Not including hangers or runners, etc. for suspended ceilings.)			
Portland cement screed	"	1	2
Do. plain face	" "	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	3

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	7½
26-oz. Do.	" "	0	10
Obscured sheet	" "	1	1
¼-in. rolled plate	" "	0	9
¼-in. rough rolled or cast plate	" "	0	10
¼-in. wired cast plate	" "	1	3

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

*These prices apply to new buildings only. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of ½ should be added for Employers' Liability and National Health and Unemployment Acts, and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TRADE NEWS

Abbey House Extension.

The solid inlaid teak parquetry and teak block flooring and also the Columbian pine board and block floorings at the Abbey House extension, Upper Baker-street, N.W.1, opened by the Prime Minister on Friday last, has been supplied and laid by Turpin's Parquet Floor, Joinery and Woodcarving Company, 25, Notting Hill Gate, W.11, the architect being Mr. J. J. Joass, and the builders Messrs. Walter Lawrence and Son, Ltd.

Metal and Steelwork.

Messrs. Fredk. Braby & Co., Ltd., issue from the Eclipse Iron and Steel Works, Glasgow, two new folders. One deals particularly with their metal windows which incorporate their "Eclipse" friction pivot—a simple yet effective device which allows cords or gearing to be dispensed with. The other booklet illustrates a few of the various forms of steel- and metal-work—windows, pressed steel stairs, constructional steelwork, etc.—manufactured by the firm.

A "New Purpose" Switch-Socket.

A new single-pole shockproof switch-socket makes its appearance this month under the name of "Lincoln." Rated at 15 amperes and to 2-pin "B.E.S.A." gauge, it is probably the smallest unit of its rating yet offered to the trade. It is manufactured by Messrs. J A. Crabtree and Co., Ltd., Lincoln Works, Walsall. The exterior is similar in design to the well-known "Lincoln" lighting switch, the cover, operating dolly and the two-screw cover-fixing arrangement being practically identical. The moulded, flat top plug is of the side-entry pattern and is provided, for safety, with a workmanlike, adjustable cord grip. A similar, but smaller, switch-socket rated at 5 amperes, is, we understand, also available at a correspondingly lower price, full details being contained in Leaflet No. 1068, available on application to the makers.

Sports Ground Layout.

The pleasures from possession of a tennis hard court are unfortunately often linked with considerable troubles. Dust in dry, moss in damp weather, with frost and drainage troubles during the winter, cause considerable annoyance, damage to courts, and expense. However, Britain's leading hard court clubs possess groundsmen of much knowledge and practical ability, as every visitor to such clubs as Roehampton, Queen's, West Side Country, for instance, will see. The experiences of these professionals has now been published in a small booklet of 16 pages which concisely deals with troubles and minor reconstr ictions. Messrs. J. Manger & Son, Ltd., the makers of "Harcorsal," which is found useful in several of these troubles, will gladly send a free copy of these hints to any hard court owner or groundsman interested in these experts' experiences.

A Pencil Cloth.

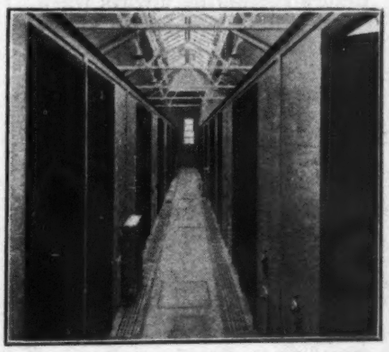
A new product which should be of interest to every draughtsman has been produced by Messrs. B. J. Hall and Co., Ltd. This firm for several years has been experimenting in connection with a tracing cloth which could be drawn upon in pencil instead of ink, and from which satisfactory photo reproductions could be made, thus providing a cloth upon which a drawing may be made direct, so dispensing with the making of an intermediate tracing. It is obvious that great economies can be effected in the drawing office, if it is found that this material will meet this need of dispensing with the making of a tracing. If a good quality pencil is used a very black line will be given on this material, and it is stated that very satisfactory photographic reproductions can be made from these originals. As many erasures as necessary can be made during the preparation of a drawing without damaging the surface of the cloth, or leaving any impression on the material. Messrs. Hall and Co.'s address is Stourton House, Dacre Street, S.W.1.

A New Spray Painting Plant.

In designing their new Type A.D. Portable Plant, the Aerograph Co., Ltd., claim to have solved the problem of how to provide a portable air-compressing outfit of sufficient capacity to operate a full-size standard spray gun—and yet at a price which places it within the reach of the average painter and decorator and the smaller refinishing shop. Designed easily to maintain a steady pressure for a full-size standard spray gun, the equipment is bolted to a substantial steel chassis fitted with a convenient push-bar and large swivelling wheels, thus providing maximum portability combined with light weight and great strength, and is provided with a "Superplus" spray gun, which produces either a wide vertical or horizontal fan spray for large surfaces or a round concentrated spray for "touch up" work or smaller surfaces by simply turning the air cap with the fingers. Full details may be obtained from the Aerograph Co., Ltd., either at their City offices and showrooms at 43, Holborn-viaduct, E.C.1, or from their new factory and general offices at Lower Sydenham, S.E.26. It will interest our provincial readers to know that the Aerograph Co., Ltd., also have fully-equipped branch offices at the undermentioned addresses:—46, Holloway Head, Birmingham; 12, Chapel-street, Victoria Bridge, Manchester; 72, Berkeley-street, Charing Cross, Glasgow, C.3; and 2, Bristol Bridge, Bristol.

New Baths at Shacklewell-lane, Dalston.

New slipper baths, with accommodation for 80,000 bathers annually, have recently been opened in Dalston. The baths are situated in Shacklewell-lane, and occupy the whole of a site, 671 square yards in extent. Owing to the shape of the site, axial planning has been adopted, which has resulted not only in a compact plan, but in a well-balanced elevation of pleasing and commanding effect. The design of the elevation is semi-modern in character, and multi-coloured bricks and artificial stone dressings have been used in the construction. Entrance doors and a ticket office occupy the central position at the front, whence access to the women's waiting-room at the north side and to the men's waiting-



Interior View of Shacklewell Lane Baths, Dalston.

room at the south side is obtained. From the waiting-rooms patrons will proceed to the baths via the corridors. There are 16 baths for women and 24 baths for men—a total of 40 baths. At the rear of the baths is situate the boiler-house and chimney-shaft. The waiting-rooms have tiled dados, and the cubicle dados, partitions and floors are of terrazzo. Above the partitions the walls are finished with a patent plaster. The roof is slated and carried on steel trusses, with lantern lights running the full length of the baths. The baths are of white glazed fireclay and of the totally enclosed type. The estimated cost of the scheme was £900 for land and £10,227 for buildings and equipment—a total of £11,127. The architect is Mr. Percival Holt, M.Inst.C.E., and the building contractors, Messrs. Commercial Structures, Ltd., of City-road, E.C.1.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modifications.*
¶ Denotes *accepted by H.M. Office of Works and H.M. War Office.*

Aberdeen.—Reconstruction and additions for warehousemen at St. Nicolas-street. Messrs. D. & J. R. MacMillan, architects, Crown-street:—

Mason, brick and steel—*W. Farquar & Sons, 38, Fraser-road, Aberdeen.
Joinery, carpentry and ironmongery—*A. Rattray, Rose-street, Aberdeen.

Ampthill.—Eight houses at The Crescent, for the U.D.C. Mr. E. E. Geeves, L.R.I.B.A., architect, Old Post Office-chambers, Cheapside, Luton:—

Heels & Sugars, Ltd., Luton	£3,600
Ernest Pryer, Luton	3,512
Harvey & Webster, Harpenden	3,350
J. B. Saunderson, Bedford	3,286
C. Oakley, Abingdon	3,240
Robinson Bros., Ashford	3,100
H. Fidler & Sons, Luton	3,000
A. T. Bottoms, Silsoe	2,960
Seymour Bros. & Tookey, Stotfold	2,900
H. Lacey & Son, Luton	2,780
E. T. Muckleston & Sons, Toddington	2,750
D. Nott, Caddington	2,730
*S. A. Smith, Bedford	2,680

Ardsley.—Four pairs of semi-detached houses fronting the Leeds and Dewsbury-road:—

*J. Kellett.

Ardsley.—24 houses type A.3, and 10 small houses on the Blackgates housing estate, for the U.D.C.:—

*Direct Labour Dept. £12,650

Ayr.—Additions to the garage premises at Beresford Park, for Dallas, Ltd., Burns' Statue-square. Mr. James Kennedy Hunter, F.R.I.B.A., architect, 51, Sandgate-street:—

*R. Hutchinson, 3, Falkland-park, Ayr.

Ayr.—Alterations to 98, Sandgate, for Messrs. A. & S. Ulivi. Mr. J. Caddick, architect, 25, Wellington-square:—

*D. Kirkland, Union-buildings, Burns' Statue-square, Ayr.

Ayr.—Premises in Sandgate, for Messrs. Affecks, Ltd., 47, Burns' Stutue-square. Mr. J. Caddick, architect, Wellington House, 25, Wellington-square:—

*Paton & Sons, Kyle-street, Ayr.

Ayrshire.—Pithead baths, for Fauldhead Colliery, near Kirkconnell:—

*Angus M. MacDougall & Sons, 24, Davaar-street, Bridgeton, Glasgow.

Ballina.—35 houses in Killala-road, for the U.D.C.:—

*Kilcawley, Maloney & Co. £9,980

Banstead.—Shopfronts at 3 and 8, Banstead Common estate:—

*A. Edmonds & Co., Ltd., Constitution Hill, Birmingham.

Barnard Castle.—Conversion of the Unitarian Chapel into a church hall. Mr. R. Wylie, architect, 24, Grainger-street West, Newcastle-on-Tyne:—

*Ridsdale Bros., Barnard Castle.

Baslow.—Conversion of Baslow Mill into a motor garage, repair shop and dwelling-house, for Mr. H. Hulley:—

*E. Glossop, Ambergate.

Birmingham.—Catholic Church of Our Lady of the Rosary and Little Flower, Parkfield-road, Saltley, for the Rev. J. Power, P.P. Mr. George Drysdale, F.R.I.B.A., architect, of Messrs. Leonard Stokes & Drysdale, architects, 102, Great Russell-street, W.C.1:—

*Isaac Langley, Birmingham.

Birmingham.—Garage with repair shops and stores, with a suite of offices over the filling station facing St. Mary's-row, Moseley; and the erection of shops along Wake Green- and Oxford-roads. Mr. Baron C. Underhill, F.R.I.B.A., architect, 33, Newhall-street, Birmingham:—

*Maddocks & Walford, Tyburn-road, Erdington, Birmingham.

Blackpool.—New St. Mary's Church, corner of Lytham-road and Roseacre, South Shore, for Rev. E. J. Houghton, St. Mary's Parsonage, Highfield-road. Messrs. F. T. Waddington & Son, F. & A.R.I.B.A., architects, 52, Abingdon-street:—

*W. H. Parker & Son, St. Annes-on-Sea.
(Estimated cost £4,000.)

Blackpool.—Alterations and additions to premises at Central-drive, for District Bank, Ltd., 15, Springgardens, Manchester. Messrs. Francis Jones & H. A. Dalrymple, F. & A.R.I.B.A., architects, 178 and 180, Oxford-road, Manchester:—

Builders—*J. E. Myerscough, Ltd., Lytham St. Annes.

Blyth.—Rebuilding of the Masonic Lodge. Mr. William Stockdale, architect, 73, Howard-street, North Shields:—

*James E. Dover, Croft-road, Blyth.

Brandy.—Enlargement of the school, for the Strabane and Castleberg Regional R.C. :—

*T. Dillon £530

Caistor.—Alterations and additions to the Poor Law Institution, for the Lindsey C.C. Mr. Henry G. Gamble, F.R.I.B.A., County Architect, Bank-street-chambers, Lincoln :—

A. J. Hawdin, Grimsby	£7,579 0
E. E. Dale & Sons, Ltd., Cleethorpes	6,933 17
Stool & Goddard, Grimsby	6,836 14
J. Tuxworth & Sons, Louth	6,775 0
G. W. Horton & Sons, Horncastle	6,703 9
Mawer Bros., Louth	6,666 0
T. Roper & Sons, Ltd., Sheffield	6,395 0
W. Greetham, Skegness	6,141 0
Thornhill Bros., Lincoln	6,034 0
W. Pallister, Ltd., Scunthorpe	5,995 0
Quibell & Hardy, Ltd., Scunthorpe	5,994 15
F. Hossack & Son, Ruskington	5,950 0
B. Pamfrey, Ltd., Gainsborough	5,925 0
T. Jenkinson & Sons, Ltd., Doncaster	5,741 17
Scupham & Son, Market Rasen	5,732 0
W. A. Major, Sturton-by-Stow	5,536 0
†R. M. Phillips & Son, Ltd., Brigg	5,525 0

Cork.—For the erection of the City Hall and Municipal Offices, for the Corporation :—

*John Sisk & Son £139,870

Crossgates.—Garage and filling station opposite Foundry-lane end on the main York-road :—

*G. Fenwick.

Croydon.—Sub-station in Ena-road, for the C.B. :—

*J. Midmer £258

Croydon.—Decorations, alterations and repairs at the Brighton-road relief station, for the C.B. :—

*R. Mansell £249

Dalserf Area. — For the Strutherhill housing scheme, for the Lanarkshire C.C. Mr. Peter C. Smith, Housing Architect, Clydesdale-street, Hamilton :—

Excavation, brick and mason—*T. Anderson & Sons, Auchingamont-road, Hamilton.
Joinery, carpentry and ironmongery—J. Y. Thorburn, Lesmahagow.
Slater—*J. & A. Rowatt, Machan-street, Larkhall.
Plumber—*S. Lander, Main-street, Uddingston.
Plaster—*R. Longmuir, cement worker, Larkhall.
Painter—*A. G. Barrie, 4, Clydesdale-street, New Stevenston.

Darlington. — Alterations and extensions to premises in Blackwellgate, for Messrs. Boot's Pure Drug Co., Ltd. Mr. Percy Bartlett, architect, Architect's Dept., Station-street, Nottingham :—

*Norman Thompson, Stone House-street, Linthorpe, Middlesbrough.

Dudley.—Offices at Priory-road, for the Midland Counties Mutual Benefit Approved Society. Mr. A. T. Butler, F.R.I.B.A., architect, 31, Priory-street :—

*J. Edwards & Sons, Dudley.

Edinburgh.—318 houses, comprising the 3rd and 4th developments of Saughton housing scheme; also for the erection of 9 houses and 2 shops at Area "F," St. Leonards Improvement scheme, for the T.C. Mr. E. J. MacRae, A.R.I.B.A., City Architect :—

St. Leonards, Area "F"—
Mason and brick—*J. Turner & Co., Westfield-street.
Carpenter work—*J. Duncan & Son, 127, Grove-street.
Glazier work — *Dickson & Walker, Ltd., Frederick-street.
Plumber work—*D. Blake & Co., Beaverhall-road.
Plaster work—*A. Gorrie, Cowdenbeath.
Slater work—*Geo. Riddell, Ltd., 29, Roseburn-street.
Painter work—*Robertson & Sons, Summerside-place, Leith.
Saughton, 3rd development—
Mason and brick—*W. Arnett, McLeod & Co., Ltd., Russell-road.
Carpenter and joiner—*W. Louden, Cleland.
Plumber—*Shaw & Gibson, W. Register-street.
Plaster—*J. W. McLauchlan, Annandale-street-lane.
Glazier—*A. B. Williamson, Coates-place.
Painter work—*J. M. Robb, Henderson-row.
Saughton, 4th development—
Mason and brick—*R. Bruce & Son, Ltd., York-place.
Carpenter and joiner—*J. and J. Chalmers, Hamilton.
Glazier work—*W. Marshall, Morrison-street.
Plumber—*Shaw & Gibson, W. Register Street.
Plaster—*J. & W. McLauchlan, Annandale-street-lane.
Painter—*G. M. Robb, Hendersen-row.
(Remainder of Edinburgh.)
Nurses' cubicles, Colinton Mains Hospital—*Thos. Graham, Ltd., Castle-street.

Edinburgh.—Residence at Colinton-road, Colinton. Messrs. Charles Tweedie & Sons, architects, Frederick-street :—

*Charles Mackendrick, 2, Charlotte-square, Edinburgh.

Edinburgh.—Residence at Torphin Quarry, Colinton. Messrs. Charles Tweedie & Sons, architects, Frederick-street :—

*George Stewart MacDonald, Westgarth-avenue, Colinton, Edinburgh.

Edinburgh.—Houses at Liberton-gardens, Liberton. Messrs. Wilson & McGill, architects, Oakfield-chambers, Motherwell :—

*Scott & Co., Dellburn-street, Motherwell.

Edmonton.—Flat roof at the convenience at the boundary of the recreation ground and cemetery, for the U.D.C. :—

*Caxton Floors, Ltd. £105 14 7

Ellesmere (Salop).—Alterations to the "Black Lion" Hotel, for the Border Breweries (Wrexham), Ltd. Mr. E. F. Davies, architect, Argyle-chambers, Argyle-street, Wrexham :—

*O. D. Stephens, Bersham, near Wrexham.

Foleshill.—Assembly hall and café at the Chace Hotel, Willenhall, for the Chace Hotel, Ltd. Mr. Frank Seale, architect, "Holmfield," Rothley, near Leicester :—

*The En-tout-cas Co., Ltd., Syston, Leicester.

Folkestone.—Extension to the roof of the existing stand of the western terrace, for the T.C. Borough Engineer :—

*Jenner & Son, 53, Broadmead-road, Folkestone £116

Fraserburgh.—For the erection of the second section of houses at College Bounds, for the T.C. :—

	4 *blocks of 3-apart. houses.*	2 *blocks of 4-apart. houses.*
Masons—		
*H. D. Scott, Strichen & Andrew Cheyne, New Pitsligo	£2,529	£1,530
Plumber—		
*J. McNab, Frithside-street	572	294
Slaters—		
*Dickie & Sons, Turriff	297	193
Plasterers—		
*A. Wiseman & Son, Manse-street	407	280
Painters—		
*G. Taylor & Son, Ellon	160	100
Carpenters—		
*A. Hall & Sons	1,152	721

Frizinghall.—Alterations and additions to the Turf Hotel, for Messrs. Joshua Tetley & Sons, Ltd., The Brewery, Leeds. Messrs. Kitson Parish, Ledgard & Pyman, architects, Vicar-lane, Leeds :—

*O'Brien & Richmond.

Gillingham.—Additions to the mission hall in King Edward-road :—

*Harris Bros., 1, Cavendish-avenue, Gillingham.

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Glasgow.—Reconstruction at Queen's-square, Strathbungo. Mr. A. Adam, architect, 122, Wellington-street, Glasgow :—

*R. Anderson & Son, 1070, Argyle-street, Glasgow.

Glasgow.—Reconstruction and additions to public garage at Dairy-street. Mr. J. Easton, architect, Bath-street :—

Excavation, brick and mason—*Findlay & McGeechan, Paton-street, Dennistoun, Glasgow.
Steel construction—*Bladen & Co., Ltd., Parkhead Iron Works, Glasgow.
Joinery, carpentry and ironmongery—*J. Garry & Co., 283, Cathcart-road, Cathcart, Glasgow.
Plaster—*J. Stewart & Co., Ltd., Sword-street, Caiton, Glasgow.

Glasgow.—School works, for the T.C. :—

Shawlands new secondary school—fencing playing fields, etc.—
*Ramage & Whitehead, 160, Feildon-street, Bridgeton, Glasgow £398 11 7
Possil new school—electrical installation, etc.—
*D. Henderson, 80, Great Western-road, Glasgow 614 0 0
Levern school—slater—
*John McLaren, Ltd., 318, Paisley-road, Glasgow 199 0 0
Gilshochill school—painter work—
*Wm. McKerracher & Co., 155, Eglinton-street, Glasgow 143 8 0

Glasgow.—Painting at Knightswood garage, Anniesland, for the T.C. Mr. George Masterton, Transport Architect, Bath-street :—

*The Cosmos Decorators (Cosmos Studios), 204, West George-street, Glasgow £488 3 6

Glasgow. — Corporation E.C. have accepted tenders for various works. Mr. William McCaig, Education Architect, Bath-street, Glasgow :—

St. Thomas' R.C. School—heating installation—
*J. Boyd & Sons, Ltd., McDowatt-street, Paisley £2,193 2 0
Riddrie-street playsheds—various works—
*Stewart & Co., South-street, Scotstoun 722 17 10
North Carntyne School—painter work—
*William McKerracher, 155, Eglinton-street, Glasgow 791 17 8

Glasshoughton.—Extensions to St. Paul's Church :—

*L. J. Gallagher & Sons.

Hinckley.—40 houses on the Middlefield-lane estate, for the U.D.C. Mr. J. S. Featherston, engineer and surveyor :—

*F. Garner & Son, 181, Loughborough-road, Leicester £12,048 4

Holbeck.—Rebuilding of premises at junction of Water-lane and Marshall-street :—

*Wm. Thompson & Sons.

Huddersfield.—Painting and decorating portions of premises at Children's Homes, Scholes, for the Corporation, Borough Engineer, 1, Peel-street :—

*Spence & Co., Honley, near Huddersfield.

Huddersfield.—Repairs at 202 to 222 (inclusive), The Square, Kilner Bank, for the Corporation. Borough Engineer, 1, Peel-street :—

*J. T. & H. Bottomley, Lindley, Huddersfield.

Johnstone.—Two hundred houses, for the T.C. Mr. W. B. Mitchell, Burgh Architect :—

Excavation, brick and mason—*J. Y. Keenie, Ltd., Floss-street, Johnstone.
Plaster—*A. McKellar & Co., Palm-street, Parliamentary, Glasgow.
Plumber—*E. Love & Sons, Rankine-street, Johnstone.
Painting—*T. Hastie & Sons, Ltd., 2, Tullis-street, Bridgeton, Glasgow.
Glazing—*R. McFarlane, William-street Glass Works, Johnstone.
Slater—*A. G. Hutton & Sons, Thompson-avenue, Johnstone.

Konmare.—Suspension bridge, for the Kerry C.C. :—

*A. E. Fair, London £9,380

Kirby Lonsdale.—10 non-parlour type houses on Underly estate, for the U.D.C. Mr. W. E. R. Thomas, surveyor :—

*Direct Labour.

Lanarkshire.—52 houses for Harthill area and country, for the C.C. Mr. P. Smith, architect, Clydesdale-street, Hamilton :—

Excavation, brick and mason—*W. Chalmers & Sons, Ltd., Knowetop Works, Motherwell.
Slater—*McCartney & Reed, 36, Glasgow-road, Wishaw.
Plumber—*R. W. Muir, 86, Brandon-street, Motherwell.
Plaster — *Hugh McLean, Douglas-street, Motherwell.
Joinery, carpentry and ironmongery—*Chalmers & Co., Ltd., Flaisington Goods Station.
Painter—*T. MacFarlane, Bellshill.

Lichfield.—Two pumping stations in brick and concrete at Alrewas, for the R.D.C. Mr. C. E. Mays, engineer :—

Contract No. 3—

L. Robinson, Ltd., Wolverhampton	£2,416 5 6
W. E. Ward, Alrewas	2,597 9 3
‡Wood & Sons, Ltd., Derby	1,913 17 5

Contract No. 4—

Adams Hydraulics, Ltd., York	1,499 10 0
Blackstone & Co., Stamford	1,228 7 0
Harland Engineering Co., Birmingham	1,708 10 0
Pulsometer Engineering Co., Birmingham	1,586 0 0
‡Rees Roturbo Mfg. Co., Wolverhampton	1,186 16 0
Tangyes, Ltd., Birmingham	1,418 10 0
Wolstenholme & Son, Ltd., Radcliffe	1,522 0 0

¶London.—Tenders accepted by H.M.O.W. for the week ended March 19 :—

Malton P.O. and T.E.—alterations and additions—T. Jenkinson & Sons (Doncaster), Ltd., Bentley-street, Doncaster.

Bromley district—ordinary works and repairs—E. A. Vickers & Son, Ltd., Builders, Bromley, Kent.

N.P.L. Acoustics Building—metal doors—J. Tann, Ltd., 117, Newgate-street, E.C.1.

Gracechurch-street Branch Post Office—adaptations C. H. Boyd & Son, Ltd., 37, Craven-terrace.

King's Lynn district—ordinary works and repairs—R. W. Fayers & Sons, 1, Ringslaith-square, King's Lynn.

Brighton Head Post Office—heating and hot water service—Heath & Co., 78, Abinger-road, Chiswick, W.4.

Exeter district—ordinary works and repairs—Woodman & Sons, Bartholomew-street, Exeter.

London.—Works for the reconstruction of the Poplar Baths, for the Poplar B.C. :—

Constructional Steelwork—

*Matt. T. Shaw, Ltd. (Provisional sum.)	£5,500 0 0

Hollow Tile Reinforced Concrete Floors—

*Caxton Floors, Ltd.	4,970 12 6

London.—Providing and fixing shop fronts at the new electricity showrooms, for the St. Pancras B.C. :—

Stanley Jones & Co., Ltd.	£239 0 0
	286 0 0
Courtney, Pope & Co., Ltd.	276 9 0
	258 9 0
Townsends (Builders), Ltd.	348 0 0
	366 15 0
G. O. Mallows	370 0 0
	405 0 0
	620 0 0
	510 0 0
	515 0 0
Deuchar & Dale, Ltd., 93, Bayham-street, N.W.1	312 10 0
	*368 0 0
Harris & Sheldon, Ltd.	443 0 0
Frederick Sage & Co., Ltd.	462 0 0
	504 0 0
	531 0 0
Parnell & Sons, Ltd.	529 0 0
	559 0 0
	606 0 0
Pollard & Co., Ltd.	295 0 0
	340 0 0

London.—External pointing and repairs to roofs and gutters at North-Eastern hospital, Tottenham, for the L.C.C. :—

G. Syddell	£2,088 0 0
Hammond & Barr, Ltd.	1,769 0 0
F. D. Hidden & Co., Ltd.	1,687 0 0
W. T. Ricketts & Sons, Ltd.	1,603 0 0
Geo. Jones & Son	1,590 0 0
Sykes & Son, Ltd.	1,570 0 0
Buckingham & Sons	1,562 0 0
Halse & Sons, Ltd.	1,497 0 0
N. W. Decor, Ltd.	1,364 2 0
Walter Rands	1,342 2 6
Headstone Construction Co., Ltd.	1,308 15 0
Lilly & Sons, Ltd.	1,293 0 0
James Stewart & Sons (Tottenham), Ltd.	1,289 0 0
R. Woollaston & Co.	1,289 0 0
Chas. Berger	1,277 0 0
Geo. Butters & Sons	1,253 0 0
Falkus Bros., Ltd.	1,251 0 0
Edward Proctor & Sons	1,220 0 0
J. T. Luton & Son, Ltd.	1,175 0 0
F. Troy & Co., Ltd.	1,170 0 0
C. & T. Painters, Ltd.	1,145 0 0
*F. S. Lee, Coleford, Lavender-hill, Enfield	1,132 2 6

(Chief Engineer's estimate: £1,350.)
(All of London.)

London.—For Thames flood prevention works on Grosvenor-road embankment at Pimlico-gardens and along Grosvenor-road, for the L.C.C. :—

		After arithmetical correction.
G. J. Anderson	£8,603 17 2	£8,620 17 2
R. Dixon & Sons	7,736 0 0	7,735 18 0
Howard Farrow, Ltd.	7,585 4 1	7,581 4 1
City Construction Co., Ltd.	7,224 10 10	—
John Mowlem & Co., Ltd.	7,132 10 11	—
The Demolition and Construction Co., Ltd.	5,932 18 2	5,932 15 9
*A. E. Farr, 39, Victoria-street, Westminster	5,300 18 9	5,300 0 9

(Chief Engineer's estimate: £6,808 16s. 2d.)
(All of London.)

London.—Wiring and fitting tenements at Block F, comprising 18 flats, at the Borough Council's working-class dwellings at Somers Town, for the St. Pancras B.C. :—

Sims & Sims	£228 0 0
P. J. Driscoll & Co., Ltd.	205 0 0
T. & E. Pickering	203 10 0
H. J. Toms & Sons	181 10 0
H. E. Walker & Son	178 4 0
W. G. Bailey	178 0 0
Service Electric Co., Ltd.	169 5 0
White, Bays & White	169 0 0
*Thos. H. Smerdon	166 0 0

London.—Ambulance station at Notting Hill, for the L.C.C. :—

		British Empire timber.
G. N. Watts, Ltd.	£1,778	£1,781
F. P. Williams, Ltd.	1,687	1,687
A. & F. Polden, Ltd.	1,659	1,659
A. Roberts & Co., Ltd.	1,635	1,640
G. Godson & Sons, Ltd.	1,609	1,609
J. Simpson & Son, Ltd.	1,589	1,589
C. H. Boyd & Son, Ltd.	1,542	1,542
W. Brown & Sons (Builders), Ltd.	1,537	1,547
R. Dixon & Sons	1,438	1,438
J. & R. Thomson (London), Ltd.	1,425	1,448
Hammond & Barr, Ltd., Sloane-avenue, Chelsea, S.W.3	1,350	1,355

(Architect's estimate: £1,567.)
(All of London.)

London.—Boiler house, pump room, chimney stack, etc., at Lambeth hospital, for the L.C.C. :—

		Empire materials.
Wm. Downs, Ltd.	£10,661	£10,661
John Garrett & Son, Ltd.	10,595	10,595
Bridge & Co., Ltd.	10,403	10,403
Jas. Carmichael (Contractors), Ltd.	10,388	10,388
Leslie & Co., Ltd.	10,264	10,364
W. H. Lorden & Son, Ltd.	10,164	10,241
Prestige & Co., Ltd.	10,150	10,150
Galbraith Bros., Ltd.	9,949	9,949
A. T. Rowley	9,837	9,837
R. J. Rowley, Ltd	9,789	9,789
J. & C. Bowyer, Ltd.	9,688	9,688
Higgs & Hill, Ltd.	9,600	9,600
Rice & Son, Ltd.	9,419	9,430
J. & K. Thompson (London), Ltd.	9,268	9,268
Jas. Smith & Sons (Norwood), Ltd.	9,165	9,165
R. Dixon & Sons	9,110	9,110
W. H. Gaze & Sons, Ltd.	9,083	9,083
J. W. Ellingham, Ltd., Dartford	8,990	*8,996

(Architect's estimate, £9,620.)
(All of London.)

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London.—Plastering, tiling, etc., at the City of London institution, for the L.C.C. :—

Edward Proctor & Sons	£2,349 0 0
Frank E. Smith, Grays	2,203 15 0
Adlards, Ltd.	2,124 9 9
Joyce & Gilmore	2,100 10 0
Thurgoods (London), Ltd.	2,085 0 0
Chas. Berger	1,993 0 0
R. Cherry & Co., Ltd.	1,925 10 4
*L. G. Davies, 62, High-road, Woodford Green, E.18	1,825 0 0
Chief Engineer's estimate	2,055 0 0

(Remainder of London.)

Longtown (Cumberland).—Installation of electric lighting and heating at the Longtown Isolation Hospital, for the Joint Hospital Board :—

*W. Batey & Sons, Warwick-road, Carlisle	£103 4 0

Lossiemouth.—Blocks of three, four and five-apartment flatted-type houses, for the T.C. Mr. Geo. King, C.E., Burgh Surveyor and Architect :—

Mason work (whole scheme)—	
*A. & W. Stewart, Lossiemouth	£3,666 1 2
Carpenter work (whole scheme)—	
*Edward Gilbert, Lossiemouth	1,972 9 3
Plumber work (12 3-apartment houses)—	
*A. Morrison, Lossiemouth	606 15 4
Plumber work (8 4-apartment houses)—	
*J. Halliday, Lossiemouth	344 0 0
Plumber work (4 5-apartment houses)—	
*R. McKay, Lossiemouth	175 17 6
Slater work (whole scheme)—	
*Jas. Michael, New Elgin	576 14 2
Electrical work (4 5-apartment houses)—	
*R. McKay, Lossiemouth	24 9 4
Electrical work (12 3-apartment houses)—	
*A. Morrison, Lossiemouth	69 3 3
Electrical work (8 4-apartment houses)—	
*J. Halliday, Lossiemouth	44 1 2
Plaster work (4 5-apartment houses—	
*J. A. Wilson, Lossiemouth	188 16 2
Plaster work (12 3-apartment houses and 8 4-apartment houses)—	
*E. G. Menzies, Lossiemouth	792 10 7
Painter and glazier work 12 3-apartment houses)—	
*K. McGillivray, Lossiemouth	133 6 4
Painter and glazier work (8 4-apartment and 4 5-apartment houses)—	
*A. D. McDonald, Forres	164 19 6
Drainage work of whole scheme—	
A. Morrison, Lossiemouth	104 7 9

Motherwell.—House at Kethers-street, Low Motherwell. Messrs. Wilson & McGill, architects, Oakfield-chambers :—

*Scott & Co., Dellburn-street, Motherwell.	

Newcastle-on-Tyne.—30 houses in Clarewood-drive and Linden-road :—

*W. E. Hall & Sons, Low Fell.	

Newcastle-on-Tyne.—Heating the Palace of Arts at the Exhibition Park, for the T.C. :—

*R. W. Cairns	£561

Nottingham.—48 houses and 24 flats, in the St. Ann's Well-road area, for the T.C. :—

*H. M. Nowell.	

Ordiquhill.—Reconstruction of the Ordiquhill School, for the Banffshire C.C. :—

Mason—*Gray, Portsoy.
Carpenter—*J. Milne, Bridge of Marnoch.
Slater—*Symon Fraser, Keith.
Plumber—*Cochrane, Portsoy.
Plaster—*Hume, Keith.
Painter—*Mitchell, Keith.
Heating—*Taylor & Fraser, Glasgow.

Purley.—Making-up of Farley-road, Selsdon, for the U.D.C. :—

	Roadway in Tarmacadam	*Roadway in Reinforced Concrete and Asphalt.*
D. W. Mitchell & Co., Ltd.	£4,667 0 6	£7,616 12 2
Gibb & Mitchell, Coulsdon	5,338 1 7	7,543 9 11
Frank Harris Bros., Sutton	5,562 18 5	7,508 10 11
Hadsphaltic Roads, Ltd.	5,573 16 9	7,022 3 5
Bridgwater Bros., Ashtead	5,289 11 8	6,991 17 6
H. Hemmings, Ltd.	5,837 12 3	6,923 17 3
G. S. Faulkner & Sons, Reigate	5,676 19 3	6,746 15 1
Tarmac, Ltd.	5,322 15 7	6,540 13 11
Brookes, Ltd.	5,420 8 2	6,382 1 6
Mears Bros.	4,822 12 7	6,238 0 11
R. Costain & Sons, Ltd.	5,174 11 0	6,211 9 2
Thos. Free & Sons, Ltd., Frenchay, nr. Bristol	4,839 5 6	6,186 17 2
Burton & Donovan, Sutton	4,943 4 6	6,143 8 8
Hodsons, Ltd.	4,934 17 11	6,070 10 5
G. Whimpey & Co., Ltd.	5,083 10 5	6,021 12 11
Road Maintenance & Stone Supply Co., Ltd., Westminster, S.W.1	4,538 8 2	*5,939 2 9

(Remainder of London.)

Plymouth.—Children's shelter, for the C.B.:—
*Wakeham Bros., Ltd. £1,165

Plymouth.—Conveniences in the Central-park, for the T.C.:—
*A. N. Coles, Ltd., Plymouth £1,243

Rhoose.—Providing central heating, including spray bath fittings and combined domestic hot water supply, at the new Council school, Rhoose, for the Glamorgan E.C. Mr. D. Pugh Jones, F.R.I.B.A., County Architect, County Hall, Cardiff:—
*J. C. Hitt & Sons, Bridgend £1,305

Rochdale.—Extensions, for Messrs. Iveson Bros., 46, Drake-street. Mr. Thomas Townend, architect, Fleece-street:—
Builders—*R. & T. Howarth, Ltd., Rochdale.
Terra cotta—*Hathern Station Brick & Terra Cotta Co., Ltd., Loughborough.

Sligo.—Concrete shed, for the Sligo Harbour Board:—
*J. J. Murphy, Athlone £585

South Shields.—Extensions to the Dean Infectious Diseases Hospital, for the T.C.:—
*James Barrow, Jarrow-on-Tyne.

Sunderland.—Church hall in the St. Nicholas conventional district. Messrs. W. & R. R. Milburn, architect, 17, Fawcett-street:
*J. Huntley & Son, Marion-street, Sunderland.

Sunderland.—Underground ferro-concrete substation in Mary-street, for the Corporation:—
†R. Hudson & Son, St. Mark's-crescent.

Sutton Coldfield.—Shopping centre in Chester-road, Streetley, near Birmingham:—
*T. Blackland, Sutton Coldfield.

Tramore.—Extension of Tramore sewerage scheme, for the Waterford County Board of Health. Mr. G. H. Jephson, Court House, Waterford:—
*C. S. Downly, Waterford £2,809 16

Wallasey.—Additions to the Promenade Pier, New Brighton, for the C.B. Borough Engineer:—
*L. G. Wilkinson, 26, Hillside-road, Wallasey.

Warsop.—Council offices and child welfare centre, for the U.D.C. Messrs. Vallance & Westwick, architects, White Hart-chambers, Mansfield:—
*Greenwoods (Mansfield), Ltd., Mansfield.

Whitefield.—Extensions to factory, for Messrs. J. Halstead, Ltd., Crow Oak works. Messrs. Bleakley & Ingham, engineers, Mellor-street, Radcliffe:—
Builders—*Bleakley & Ingham, Radcliffe.
Slating—*William Royle & Co., Manchester.
Plastering and Painting—*J. Lomax & Co., Ltd., 2, Lowton-street, Radcliffe.

Woking.—Repairs of cottages at the sewage farm, for the U.D.C.:—
*H. Mullins, Goldsworth-road, Woking £189 6 11

Wolverhampton.—40 type "D" houses on the Low Hill estate and 22 on the Willenhall-road estate:—
*A. M. Griffiths & Sons, Ltd., Wolverhampton £18,086

Wolverhampton.—Two houses at Cosford water works, for the T.C.:—
*H. Mason, Tettenhall, Wolverhampton £1,244 19

Wolverhampton.—Alterations to the offices at the Transport Depot, for the T.C.:—
*F. J. E. Teoby & Sons, Ltd., Wolverhampton £1,096

Woodley.—New co-operative buildings for the Woodley Co-operative Society, Ltd. Architects' Department, Co-operative Wholesale Society, Ltd., Balloon-street, Manchester:—
Builders—*G. & W. Smith, Manchester.
Joiners—*Tinker & Young, Ltd., Newton Heath.
Plumbing—*W. & H. Dale, Ltd., Manchester.
Plasterer—*A. & S. Wallace, Newton Heath.
Slating—*E. Turner & Son, Failsworth.

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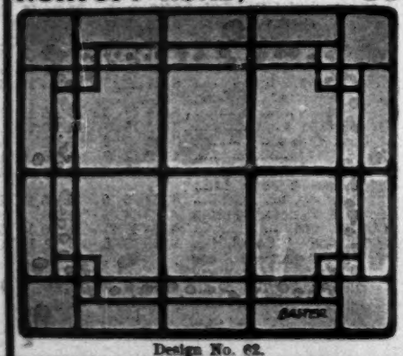

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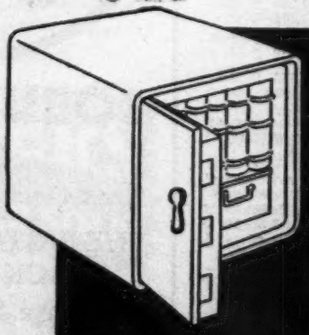

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